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The Acquisition of Split-Ergativity in Kurmanji Kurdish

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The Acquisition of Split-Ergativity in Kurmanji Kurdish

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Dissertation

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas at Austin

December 2009

Dedication

To My Family

Acknowledgements

This dissertation may represent the culmination of many years of graduate study, but it is also a reflection of the support and contributions of many people without whom I would not have been successful. I first wish to thank my co-supervisors, Richard Meier and Keith Walters, who have patiently provided me with constant support, advice, and thought-provoking questions and comments throughout the whole process. In short, they have been real mentors for me as a scholar, researcher and educator, and I could not have asked for better ones. I would also like to thank my other committee members, Cathy Echols, Pattie Epps, Lisa Green, and Tony Woodbury for providing such valuable feedback in such a short amount of time. I know that the comments you gave will help make this dissertation and all subsequent projects substantially better.

I also wish to thank my friends at UT who shared with me the ups and downs of graduate school life: Elaine Chun, Shannon Finch, Er-Xin Lee, Liberty Lidz, Ginger Pizer, Malavika Shetty, Laura Tamayo-Gambarino, Alex Teodorescu, and Christina Willis. Also, thanks to Qing Zhang, who always lent me an ear and wrote many letters. Finally, to Kathy Ross and Ben Rapstine, thanks for helping me understand and jump through the many official hoops to degree completion.

I would like to acknowledge the following organizations for providing support for my graduate training and research: the National Science Foundation; the US Department of Education; and the University of Texas at Austin, including the College of Liberal Arts and the Department of Linguistics.

My gratitude goes to the Kurdish community, particularly the participants, for welcoming me and sharing their time for this project. They opened their doors, fed me countless cups of tea and snacks, and put up with hours of taping and questions.

Finally, I am particularly grateful to my family. The entire Polat clan, especially my mother-in-law, not only supplied me with love and a constant supply of food, but also helped me recruit participants and provided much needed knowledge of the Kurdish language. In particular, Fuat spent countless hours transcribing data, traveling on buses throughout the entire region (getting sick every time), and providing me with unparalleled assistance with every step of data collection – I certainly could not have completed this project without his help. My mother, sisters, and brothers have always given me encouragement and emotional and material support throughout my years of schooling. Last but not least, to Zeki, my cherished little boy, and Nihat, my husband and lifelong friend – you both have been such a source of love, putting up with the long hours of writing and giving me a reason to persevere and finish.

The Acquisition of Kurmanji Kurdish

Publication No._____

Laura Jahnavi Mahalingappa, Ph.D.

The University of Texas at Austin, 2009

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Previous research about the acquisition of the case-marking systems of ergative languages suggests that children acquire ergative and accusative languages equally easily (Van Valin 1992), depending on the degree to which the case morphology is consistently ergative or accusative and the degree to which adults use the morphology (Pye 1990). However, split-ergative languages incorporate both accusative and ergative systems, some in the midst of a shift away from ergativity, thus providing variable and inconsistent input for children. Yet previous research suggests that children can acquire variable linguistic forms at early stages, reflecting frequencies in which the forms occur in caregiver input (Henry 1998, 2002, Miller 2006, 2007, Westergaard 2009). This study examines the acquisition of split-ergativity in Kurmanji Kurdish, where the direct case is used with both present-tense agents and past-tense patients and the oblique case is used with past-tense agents and present-tense patients. However, recent research suggests the weakening of ergativity in Kurmanji (Dorleijn 1996), resulting in variable use of case-marking. This study examines the acquisition of split-ergativity in Kurmanji when considering the split systems and inconsistent adult input. Data from children (n=12) and

caretakers (n=24) include spontaneous speech samples and results from a modified Agent-Patient test (Slobin 1985). Four children from three age groups, 1;6, 2;6, and 3;6, were recorded interacting with caretakers every three months for one hour over a 12-month period. Statistical analyses were conducted focusing on adult patterns (input for children) and children's production at different ages. Results suggest that Kurmanji may be shifting away from a split-ergative system, with the past tense extending to a double oblique pattern and nouns gradually losing oblique case-marking altogether, resulting in variable case-marking. Data show that children first use ergative case as early as 2;0 and show evidence of repeated use of split-ergative case-marking by 2;6. Even at these early ages, children use similar variability and frequency in case-marking as their caretakers, closer to usage of younger adults versus older adults. Thus children seem to use ergative case-marking early, and when faced with inconsistent input, they ultimately conform to the patterns modeled by the adult community.

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Chapter 1: Introduction

Questions surrounding the acquisition of ergative languages, in which agents of transitive clauses and subjects of intransitive clauses are not marked with the same case, have been addressed by a number of studies (Bavin 1992; Ezeizabarrena & Larrañaga 1996; Fortescue & Lennert Olsen 1992; Imedadze & Tuite 1992; Ochs 1982; Pye 1990; 1992; Saleemi 1995; Schieffelin 1985). Children appear to acquire ergative systems quickly and with few errors (Van Valin 1992). Pye (1990) suggests that children may acquire the morphological systems of ergative and accusative languages equally easily. The ease of acquisition depends on the extent of regularity with respect to whether the morphology of the language is consistently ergative or accusative and the degree to which adults use the morphology.

However, some languages incorporate elements of both accusative and ergative systems, a situation which is generally referred to as split-ergativity. In fact, it may be that no language is consistently ergative (Dixon 1994). One of the common ways languages manifest a split is between tense-aspect categories, with the ergative systems appearing most often in the past tense or perfective aspect (Payne 1997). Not only do split-ergative languages provide two different systems to mark grammatical relations, but those which have morphological ergativity also show inherent instability and are likely to change (Dixon 1994, Nichols 2003)). Such languages in the apparent midst of language change may have variable linguistic forms, thus providing inconsistent input for children trying to acquire complex grammatical systems. Yet previous research suggests that children can acquire variable linguistic forms at an early stage, reflecting frequencies in which the forms occur in caregiver input (Henry 1998, 2002; Miller 2006, 2007; Westergaard 2009).

This study examines the acquisition of split-ergativity in Kurmanji Kurdish, where the direct case (DIR) forms are used with marks both present-tense agents and past-tense patients and the oblique case (OBL) marks past-tense agents and present-tense patients. However, recent research suggests the weakening of ergativity in Kurmanji (Dorleijn 1996), as demonstrated by disappearing OBL on masculine nouns and increasing use of OBL on objects in past-tense structures. Therefore, children acquiring Kurmanji must learn a system of grammatical relations where case-marking varies depending on the tense, but also where input from caretakers may be inconsistent. The question posed in this study is what are the case-marking and word order patterns displayed by children acquiring Kurmanji? An investigation into the development of case-marking and word order must take into account both the split-ergative pattern of case-marking and the variability in adult input due to the changing nature of ergativity in the language. In this study, I suggest that children acquire the split-ergative system early and ultimately use the same patterns of case-marking demonstrated by the adults–that children acquire the same degree of variability used by adults.

Data include spontaneous speech samples and experimental data from a modified Agent-Patient test (Slobin 1985) from both children (n=12) and caretakers (n=24). For the spontaneous data, four children each from three age groups, 1;6, 2;6, and 3;6, were recorded interacting with caretakers every three months for one hour (four sessions total) over a 12-month period. Statistical analyses were conducted focusing on adult patterns (input to the children) and children's production at different ages. For the experimental task, both children and adults participated in an elicited production task focusing on case-marking of agents and patients in present and past-tense transitive sentences. Statistical analyses were conducted to address the effects of speaker age and the differences between word types and grammatical relations on the use of split-ergative case-marking.

Although Kurds represent the largest minority group in Turkey and are also significant minority groups in other countries in the region, there have been few studies on any dialect of Kurdish. Kurmanji has been understudied with no published grammar in English, very few grammatical studies, and no study to date on its acquisition. This study will therefore benefit a number of fields. First, by investigating the acquisition of Kurmanji, this study can aid educators and policy makers in Turkey by presenting information about the normative patterns of language development in Kurmanji, providing a long-term benefit to the Kurmanji-speaking population there.

The study is also significant in terms of enhancing our understanding of the similarities and differences of child language development in different languages by providing the first study of the acquisition of Kurdish, which is a severely understudied language. In the introduction to his edited volume on the crosslinguistic study of language acquisition, Slobin (1985) notes that while the purpose of the study of language acquisition may be to reveal universal trends in development,

> …one cannot study universals without exploring particulars… By combining attention to universals and particulars, we are beginning to discern a more differentiated picture of child language–one in which we can see why patterns of acquisition of specific properties vary from language to language, while they are determined by common principles of a higher order (4-5).

In addition to adding to the cross-linguistic data on case-marking, word order, and child language development in split-ergative languages, this study also increases our understanding of the acquisition of variable forms and the interaction between acquisition and language change. Research on child language acquisition tends to focus on a single target grammar, not making an allowance for children being presented with input which is highly variable. However, in reality, there may be interspeaker and intraspeaker (i.e., bidialectal) variability in the grammars of monolinguals (Henry 1998). When language change is in progress, the likelihood of variable forms is greater, often with no one form

significantly favored over another. Even if one form is favored over another, children seem to be aware of the existence of both choices and may use them with roughly the same frequency as adults (Henry 1998, 2002; Westergaard 2009). In this study, Kurmanji may be undergoing language shift from a split-ergative to a fully nominative/accusative system; at present, variable case-marking forms are allowed for both agents and patients. Therefore, the study of the acquisition of these forms by children in this community may add to an understanding of how acquisition occurs in the presence of ongoing language change and variable forms.

In this dissertation, in Chapter 2, I first give an overview of the Kurdish-speaking population and Kurmanji as spoken in Turkey including a brief sketch of ergativity and split ergativity in Kurmanji. Then I review pertinent literature on the acquisition of ergative languages, case, and variable linguistic forms. Chapter 3 reports the research methods including research questions, participants, setting, data collection and data analysis techniques. Chapter 4 presents the results of a naturalistic study of case-marking and word order in the speech of caretakers and children. Chapter 5 provides the results of an experimental study on the use of case-marking in elicited transitive structures. Finally, Chapter 6 situates the study findings within the framework of the previous literature. It also presents implications, discussing limitations and future directions for further study.

Chapter 2: Literature Review

In this chapter, background information and a literature review will be presented. First, background about the Kurdish-speaking areas and the Kurdish language in Turkey will be introduced along with a brief grammatical sketch of Kurmanji Kurdish. Then, previous literature about the acquisition of ergative languages and case and inflection will be reviewed. Finally, the issue of syntactic variability and change will be examined.

2.1. KURDS AND KURDISH

The Kurdish people live in an area which extends over parts of Turkey, Iran, Iraq, Syria, and the Former Soviet Republics of Armenia, Georgia, and Azerbaijan. This area can be seen in the map below in Illustration 2.1. The number of Kurds living in these areas is hard to determine, with estimates varying from 15 to 25 million (Haig and Matras 2002). Within these nations, there are areas where the Kurdish population constitutes roughly 90-100% of the local population. In Turkey, the major cities of Van and Diyarbakır have majority Kurdish populations and other cities such as Erzurum, Kars, and Urfa have significant Kurdish populations.

Generally Kurds in Turkey have a low socio-economic status with low levels of education. Kurds in rural areas often do not attend high school, and in the urban areas, most do not attend university. In the rural areas, Kurds are engaged in farming activities; they can be sedentary or nomadic, mostly involved in animal husbandry. Many Kurds, however, have either been relocated in the past to urban areas throughout the country[1] or in recent times have migrated to Istanbul or other major cities in the eastern part of Turkey. These Kurds have tended to work in construction or other manual labor jobs.

[1] The Turkish government has in the past relocated Kurds into other parts of Turkey in an effort to dilute the majority Kurdish population in some areas. At the same time, it has also given incentives to ethnic Turks to move into majority Kurdish areas with the same motive.

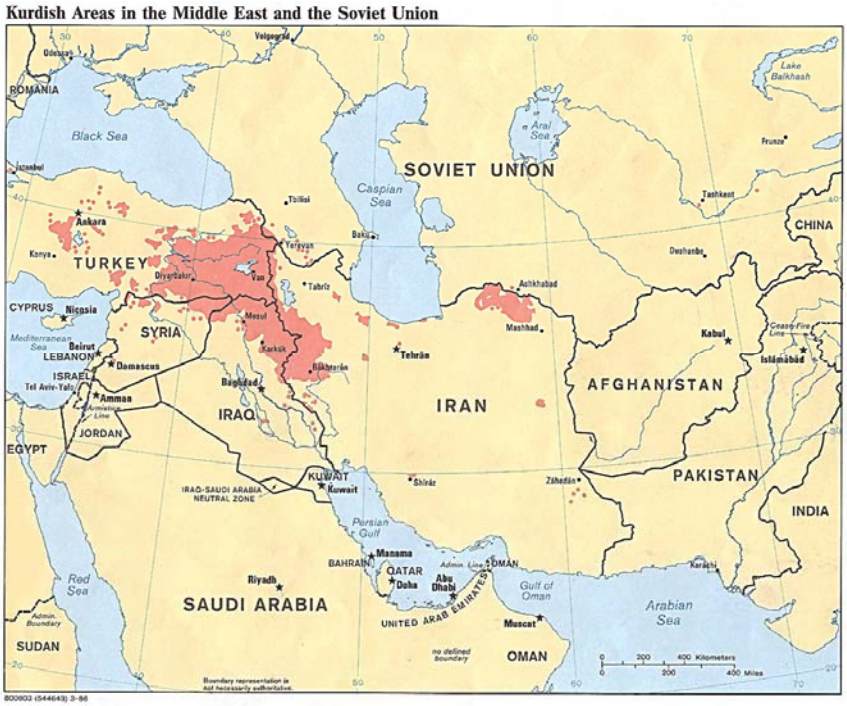


Illustration 2.1: Kurdish Areas (University of Texas Libraries)

Most Kurds speak Kurdish, a language which is a member of the Western subgroup of the Iranian branch of the Indo-European language family. Some scholars refer to Kurdish as a single language and others refer to it as a group of languages (McCarus 1992; Kreyenbroek 1994). Although literature on the division of Kurdish into group or dialects is contradictory[2], linguists generally recognize two major dialects of Kurdish: Kurmanji (Northern) and Sorani (Southern) (McCarus 1992). The two major varieties may in fact be two separate languages, not mutually intelligible. However, due to politics more than linguistic analysis, Kurdish is still generally considered to be one language with dialects. Kurmanji is spoken mostly in Turkey, Syria, the Former Soviet

[2] Some literature divides Kurdish into three dialects (Northern, Central and Southern), while others put Kurmanji and Sorani into one group with other Kurdish languages or dialects in a separate grouping (Izady 1992).

Union, and Northern Iraq while Sorani is spoken mostly in Iraq and Iran. In Illustration 2.2, these two dialect areas are divided by the line that goes through Northern Iraq and Iran, just south of Mosul. Both major varieties of Kurdish are in close contact with a national language: Turkish in Turkey, Arabic in Syria and Iraq, or Persian in Iran. However, in most areas, Kurdish has either no official status or its use is limited in official capacity, the exception being northern Iraq.

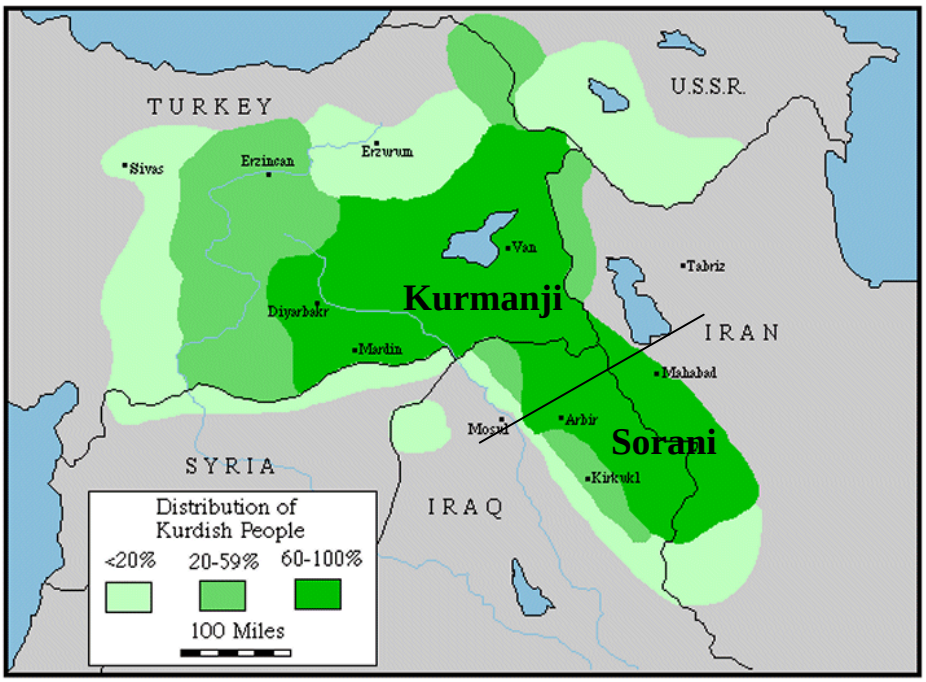


Illustration 2.2: Kurdish Distribution (globalsecurity.org)

The largest number of Kurmanji-speakers is in Turkey. According to various sources (Dorleijn 1996; Mutlu 1996), the number of Kurmanji-speakers in Turkey ranges from 3 million to 15 million. The exact number of Kurmanji speakers in Turkey is difficult to establish first of all due to its lack of official status and possibly not being counted by the government. On the one hand ethnic Kurds tend to identify themselves as Kurmanji-speakers even if they are not, leading to possible overcounting (May 2001;

Mutlu 1996; Hassanpour 1992). With Turkish as the official language of Turkey and the language of education, government and the media, minority language groups in Turkey have had a turbulent history, Kurmanji-speakers being no exception. The Turkish government has sought to erase the presence of Kurds from the country, referring to them simply as mountain Turks. Thus, since the foundation of the modern Turkish nation-state, Kurds in Turkey have been denied language rights and have confronted educational policies aimed at the complete assimilation of the entire minority group into Turkish society and language. Until the recent advent of new laws allowing for limited publication and broadcasting in the language, the public use of Kurmanji was illegal. This situation, among others, has led to animosity between Kurdish nationalists and the Turkish government, spurred on by guerilla activities by the PKK (the Kurdistan Workers Party). Conflicts between Turks and the PKK have claimed roughly 37,000 lives during the past 30 years (May 2001, Mutlu 1996).

A lack of institutional support for Kurmanji, in addition to the history of active suppression of the language, has resulted in a situation where Kurmanji monolingualism in Turkey is declining, Kurmanji-Turkish bilingualism is increasing, and Turkish monolingualism among ethnic Kurds is becoming more common. Especially in urban areas, but even in majority Kurdish areas, bilingualism or Turkish monolingualism is the rule rather than the exception. Many Kurds who do speak Kurmanji have never written the language or even seen it written, having been completely schooled in Turkish. Despite this situation, many Kurdish villages in rural areas in Turkey are Kurmanji-dominant, where, although most people know some Turkish, Kurmanji is the language of daily activity. The children in these areas are monolingual in Kurmanji until they enter elementary school at age seven.

2.1.1. Literature on Kurdish

Due to the historical and political situation, Kurds and Kurmanji in Turkey and in the broader Kurdish region, have been understudied. Scholarship on the area is limited; there is no published grammar in English, few grammatical studies, and no study to date on its acquisition. The reference used by many researchers is a grammar of Kurmanji written in the 1930s by Celadet Bedirxan; this grammar introduced a Latin-based script for Kurdish and was written partially in an attempt to produce a standard for the language (Haig and Matras 2002). While this grammar provides a base-line for linguistic research on Kurmanji, it is not representative of the language of Kurmanji-speakers in Turkey today. Given the fact that Kurmanji has never undergone the process of standardization, we are not surprised to find that there is a great deal of inter-speaker and intra-speaker variation in the Kurmanji-speaking areas.

More recent studies include work on Kurdish dialects, Kurdish phonology, and contact issues, conducted mostly on varieties outside of Turkey. A special issue of *Sprachtypologie und Universalienforschung – STUF* in 2002 included a brief overview of Kurdish linguistics (Haig and Matras 2002) and presented a number of recent studies. In this issue, Haig (2002) and Matras (2002) examine complex predicates and complementation in Kurmanji, respectively. However, there has been no study on language acquisition or socialization of any dialect of Kurdish.

A few studies have analyzed the presence of ergativity in the language. Bynon (1979) compares the ergative constructions in the Kurmanji and Sorani dialects as a way of looking at the development and decline of ergativity in Iranian languages. She assumes that "the geographical continuum of the Kurdish dialects whose grammars exhibit the whole range of possibility from fully ergative systems in the north to fully accusative systems in the south, reflects the successive stages of a diachronic process" in Iranian

languages as a whole (211). Matras (1992-1993) presented data on the formal use of the ergative construction in Kurmanji using literary sources, as well as spontaneous speech samples collected from Kurdish Jews from northern Iraq now living in Israel. Haig (1998) attempts to show that ergativity in Kurmanji is morphological rather than syntactic, and therefore a superficial phenomenon susceptible to change. Finally, Dorleijn (1996), in one of the largest recent studies, presents a case for contact with Turkish—along with internally-induced processes—as leading to the gradual weakening of the use of the ergative construction in Kurmanji.

2.2. GRAMMATICAL SKETCH OF KURMANJI

This grammatical sketch is based on information obtained from Bedirxan and Lescot (2000), McCarus (1992), Dorleijn (1996), Haig and Matras (2002), and my own investigation into the grammar of the language. First, Kurmanji is written with a Latin-based script inspired by the one devised for Turkish (Haig and Matras 2002). This alphabet is presented in Appendix A. In this alphabet, there are 31 letters: 23 consonants and 8 vowels.

Kurmanji is an SOV language with strict word order for its core constituents at the clause level (McCarus 1992). Interrogative sentences maintain the SOV word order. For noun clauses, the order is generally noun plus modifier, such as adjective, noun, possessive pronoun, etc., where the noun is linked to its modifier by a linking morpheme called izafet (noun + izafet + modifier) which agrees in number and gender with the noun (see Table 2.1). In some cases, nouns are preceded by their modifiers, such as interrogatives, quantifiers, numerals, and demonstratives, which do not have any morphological link to the noun. Also, indirect objects generally occur postverbally.

In the Kurmanji dialect, nouns are marked, usually by inflections suffixed to the noun, for number, definiteness, gender, or case. Unmarked or bare forms of the noun can

have a singular, generic, or indefinite plural meaning. Pronouns are distinguished for number and person and exist independently or as suffixes. Adjectives are marked by suffixes for number and degree.

In studies of Kurmanji, researchers use the labels oblique (OBL) and direct (DIR) cases to indicate case on nouns; DIR forms of nouns are unmarked (bare stem of the noun) and OBL forms of nouns have an inflectional suffix. Pronoun forms are suppletive. Both OBL and DIR case forms for nouns and pronouns are listed in Table 2.1, based on information from Dorleijn (1996), Haig (1998), Matras (1992-1993) and a sampling from Kurmanji speakers in my study. The speakers in my study show evidence of using all the possible forms noted in previous literature as well as one additional form for the third person plural oblique pronoun, listed in italics in the table[3].

Table 2.1: Direct and Oblique case forms for definite nouns and pronouns

	Direct (Nominative/Absolutive)	**Oblique (Accusative/Ergative)**	**Izafet**
Nouns			
Masculine	-Ø Lawik 'boy'	-î lawikî	(-y)ê -î following -ek
Feminine	-Ø qîzik 'girl'	-ê qîzikê	(-y)a -e following -ek
Plural	-Ø qîzik	-an / -a qîzikan / qîzika	(-y)ên -e following -ek
Pronouns			
1s	ez	mî(n)	
2s	tu	te	
3s	ew; ewa	(e)wî (masc.); (e)wê (fem.); wîn (both masc. and fem.)	
1p	em(e)	me	
2p	wûn; hûn	we	
3p	ew(an)	wan(a); van(a); evana; ewan(a); *wa*	

[3] The form *wa* for the oblique form of the third person plural was elicited from a 23 year old male speaker during an informal translation task aimed at establishing the direct and oblique forms of pronouns and nouns in the variety of Kurmanji spoken in the area of study.

Verbs are marked for tense, aspect, transitivity, voice, mood, person, and number, mostly marked by suffixes on the stem. There are two verb stem types: present (the base for present tense) and past (the base for several past tenses). Verbs subcategorize into two groups: imperfectives (marked by a prefix) and perfectives. There are three moods: indicative, subjunctive, and imperative.

2.2.1. Split-Ergativity: Agent-Patient Case-Marking

The two major case systems for marking agent-patient grammatical relations, nominative/accusative and ergative/absolutive, differ in how case is assigned to arguments of the verb. In nominative/accusative systems, the S (subject or actor), the only nominal argument of an intransitive clause, has the same morphological case as an A, the agent[4] of a transitive clause, usually the nominative case. The P, the patient of a transitive clause, is marked with the accusative case. Also, in nominative/accusative systems, the verb agrees with the S or A (Payne 1997). Most Indo-European languages, including English, use the nominative/accusative system.

Ergativity in general is hard to define because researchers working on different languages use the term in different ways, ergativity often being overused to describe a variety of different phenomena (Dixon 1994). Dixon defines ergativity as the situation in which "the subject of an intransitive clause is treated in the same way as the object (patient) of a transitive clause, and differently from transitive subject" (1994, 1). In ergative/absolutive systems, the S and P have the same morphological case, the absolutive case, which is different from the case of A, which is marked with the ergative case. Ergative/absolutive systems of grammatical relations may also manifest themselves

[4] The semantic role of *agent* is defined as the typically animate perceived instigator of an action, and the semantic role of *patient* is defined as an entity that undergoes a physical, visible change in state (Payne 1997, 49-50).

in other areas of morphosyntax, such as subject/object verb agreement; in ergative/absolutive systems the verb may agree with the P instead of the A.

Some languages incorporate elements of both nominative/accusative and ergative/absolutive systems. In these cases, which generally can be referred to as split-ergativity, languages manifest the split systems in a number of ways, including splits between clause types, tense-aspect, number, and nominals along the Animacy Hierarchy, with personal (SAP) pronouns (especially first and second person pronouns) at the far left (highest in animacy) and inanimate nouns at the far right. In terms of the Animacy Hierarchy (Silverstein 1976), high-animacy agents usually are unmarked, since they act as more "natural" agents, and low-animacy patients are unmarked. Thus, agentive pronouns would be more likely unmarked (with nominative case form) whereas pronouns as patients would be more likely marked (with accusative case form). Alternately, agentive inanimate nouns would be more likely marked (with ergative case form) and inanimate nouns would be more likely unmarked (with absolutive case form). Another common type of split is between tense-aspect categories, with the ergative system appearing in the past tense or perfective aspect, which is the case in many of the Indo-European languages that have split-ergativity, such as Hindi (Payne 1997).

Researchers distinguish between morphological ergativity and syntactic ergativity, often to address the split between nominative/accusative and ergative/absolutive systems. Morphological ergativity refers to case-marking of core relations within a simple clause, as opposed to syntactic ergativity which is present if S and P share identical properties, an S/O[5] pivot, in terms of a number of different syntactic processes, such as raising, control of reflexives, Equi-NP deletion, constraints on

[5] In Dixon's terminology, the alternation is between an S/O pivot and an S/A pivot, where the O is the direct object and the A is the agent. I use P (patient) to represent direct objects throughout my study, but I use the accepted S/O pivot which is used in all literature on syntactic ergativity that I have encountered.

relativization, and coreferential deletion across coordinate clauses (Dixon 1994; Haig 1998). Haig (1998) further states that "morphological ergativity manifests itself primarily in (a) identity of case marking between S and O, and (b) the fact that both S and O determine agreement on the verb (cross-references) in the same manner" (151). Basque, for example can be considered to have accusative syntax but ergative morphology (Ezeizabarrena and Larrañaga 1996). Furthermore, morphological ergativity can be considered a superficial phenomenon, which is largely independent of other levels of linguistic organization. Therefore, languages with morphological ergativity may not be considered as true ergative/absolutive languages in terms of grammatical relations (Haig 1998).

The Kurmanji dialect of Kurdish has split-ergativity manifested in a tense split; ergative morphological case-marking is present only in past-tense transitive sentences.[6] Haig (1998) suggests that Kurmanji has morphological ergativity as opposed to syntactic ergativity, implying that in Kurmanji, ergativity is a relatively superficial phenomenon. Haig claims that Kurmanji has a consistent S/A pivot, where the subject and agent share properties and the ability to control certain syntactic processes, as opposed to an S/O pivot. He also refers to the weakening of the use of ergativity in Kurmanji to support his claim; since the case-marking system is changing but not the core word order, ergative case-marking seems to be independent of the syntax.

In Kurmanji, in the nominative/accusative system in the present tense, the DIR, or unmarked, form is used with S, the intransitive subject, and A, the transitive agent. The OBL, or marked, form is used with P, the transitive patient. The verb agrees in person and number with the S and A. In the past-tense ergative/absolutive system, S and P have the DIR, unmarked form whereas A has the OBL, marked form. The verb in past-tense

[6] The literature states that other dialects of Kurdish do not have ergativity marked by case (Bynon 1979). Sorani, however, still manifests split-ergativity in its verbal inflectional morphology.

transitive sentences agrees with P. In other words, in both tenses, the verb always agrees with the noun with the unmarked DIR form.

Example 2.1: Split-Ergative Distribution in Kurmanji

a. Intransitive in present/past tenses; verb agrees with nominative/absolutive S:

NP_i [N + DIR] Vintr. [prefix + Stem (pres./past) + $AGREE_j$]
Subject (S)

b. Transitive in present tense; verb agrees with nominative A:

NP_i [N + DIR] NP [N + OBL] Vtr. [prefix + Stem (pres.) + $AGREE_j$]
agent (A) patient (P)

c. Transitive in past tense; verb agrees with absolutive P:

NP [N + OBL] NP_i [N + DIR] Vtr. [prefix + Stem (past) + $AGREE_j$]
agent (A) patient (P)

Example 2.2: Split-Ergative Examples

a. Intransitive in present/past tenses; verb agrees with nominative/absolutive S:

Lawik dîkeve.
boy-DIR IMPERF-fall-PRES, 3S
'The boy is falling.'

Lawik ket.
boy-DIR fall-PAST, 3S
'The boy fell.'

b. Transitive in the present tense; verb agrees with nominative A:

Lawik qîzikê paçîdike.
boy-DIR girl-OBL kiss-PRES, 3S
'The boy is kissing the girl.'

c. Transitive in the past tense; verb agrees with absolutive P:

Lawikî qîzik paçîkir.
boy-OBL girl-DIR kiss-PAST, 3S
'The boy was kissing the girl.'

The differences between intransitive and transitive present and past sentences are presented in Example 2.1 with formulae suggested by Bynon (1979) and sample sentences in Example 2.2, confirmed to be the pattern for the variety of Kurmanji in the

community in this study. To place these case-markings into the literature on grammatical relations, depending on the tense, OBL could be considered both accusative (present-tense P) and ergative (past-tense A), and DIR could be considered both nominative (present-tense S/A) and absolutive (past-tense P).

Recent research has indicated a general weakening of the use of the ergative morphological pattern. Dorleijn (1996) suggests that ergativity in Kurmanji in Turkey, especially in areas further from the borders with other countries, is gradually disappearing due to both internally-induced change and contact with Turkish. Drawing on research obtained through analysis of translation tasks and spontaneous data collected from speakers mostly from the Diyarbakır region and other parts of Southeast Turkey, Dorleijn explains how Kurmanji is slowly demonstrating a more nominative/accusative structure; past transitive sentences are moving away from an ergative case-marking structure, represented in Example 2.3a, and are moving towards structures shown in Example 2.3b and Example 2.3c.

Example 2.3: Changing case-marking structure in Kurmanji[7]

a. OBL-DIR-PA, where PA = Verb with P agreement

b. DIR-OBL-AA, where AA=Verb with A agreement

c. OBL-OBL-NA, where NA=Verb with no agreement or with unmarked 3SG

Of the 12 possible patterns, these three were the most frequently occurring in Dorleijn's data; of the three, (c) was the most common, only slightly more than (a), which was only slightly more common than (b). In her data, Dorleijn shows evidence for

[7] In this example of agreement patterns in her study, Dorleijn (1996, 116-117) uses OA to denote verb agreement with the direct object and SA to denote verb agreement with the subject of transitive clauses. I have changed these to PA, agreement with the patient, and AA, agreement with the agent, to be consistent with my previous use of patient and agent in example 2.1.

morphological leveling of the OBL suffix, which would normally have different feminine and masculine forms, to masculine *–î*, with some participants using this masculine OBL suffix for the DIR (1996, 61).

As explained by Dixon (1994), languages undergoing change from a split-ergative/absolutive to a nominative/accusative system often generalize from one tense to the other, in this case generalizing the present-tense nominative/accusative case endings to the past tense, as in 2b, and overgeneralizing the use of OBL, as in 2c. In fact, many Iranian languages that have split-ergativity are undergoing the change to nominative/accusative systems. For instance, Rushan case-marks agents and patients in past-tense structures with a double OBL as in 2c, which Dixon (1994) claims is inherently unstable and will eventually change into a structure as in 2b. A shift from an ergative/absolutive to a nominative/accusative system has been documented in other languages as well. Schmidt (1985) investigated language change in Dyirbal where she suggested that many young people who were not fluent speakers lost the ergative/absolutive distinction, relying on an English-like nominative/accusative system with word order marking agent-patient roles.

Furthermore Matras (1992-1993) suggests that OBL marking on masculine nouns in general is disappearing, but that feminine nouns and personal pronouns are still marked with OBL. Matras (1997) also notes that the DIR/OBL distinction is no longer observed in a systematic manner in third person singular pronouns and that second person singular and third person plural no longer mark the case distinction. There is also a tendency for verb endings to default to third person singular, thereby reducing the subject-verb agreement with DIR case-marked verbs. This leveling of person-marking on verbs thereby affects the formation of the ergative, which may explain the lack of verb agreement seen in 2c.

Haig (1998) posits reasons why ergativity may be disappearing. He notes that in Kurmanji, case marking on core constituents carries a very low functional load in Kurmanji (because word order is relatively fixed) evidenced in the tendency for a few nouns to not inflect for case at all, for case markers to be omitted in casual speech (relying on context) and the proposal that the second person singular pronoun now has a single form with no DIR/OBL distinction (word order does the work). In addition, Haig proposes that the OBL marking on patients in double oblique constructions may have developed to denote specificness or definiteness, a product of language contact with Turkish and Persian. As stated by Haig (1998), "however we wish to evaluate it, it is clear that… ergativity in Kurmanji Kurdish is inherently instable…" (158). Thus, ultimately, the function of case-marking in terms of distinguishing agents and patients in transitive clauses may be lost in favor or more strict word order.

2.3. THE ACQUISITION OF ERGATIVE LANGUAGES

From the perspective of researchers working on the acquisition of nominative/accusative alignment systems, it would seem likely that children learning ergative languages may encounter more difficulty (Van Valin 1992), especially considering that few ergative languages are have full morphological ergativity, but rather display features from nominative/accusative systems as well. As stated by Ochs (1982) when discussing the acquisition of Samoan:

> In terms of the acquisition process, the child must become competent in using two sets of grammatical distinctions on the morphological or syntactic level. One could reasonably predict that this situation could present cognitive difficulties which are not faced by a child acquiring a language with nominative/accusative case-marking (647).

Previous studies have examined the acquisition of both ergativity and split ergativity in languages such as Warlpiri, Inuktitut, Basque, Georgian, Samoan, K'iche', Kaluli, and

Hindi, suggesting that ergativity in fact may be acquired early and with apparent ease depending on the way the ergative system is structured and on sociolinguistic factors as detailed below (see Bavin 1992, Crago and Allen 1999, Ezeizabarrena and Larrañaga 1996, Imedadze and Tuite 1992, Ochs 1982, Pye 1990, 1992, Schieffelin 1985, Saleemi 1995).

First of all, some research suggests that ergative patterns are somewhat natural for children. Goldin-Meadow (2003) examines how language-delayed deaf children treat intransitive actors (S): like transitive actors (A) or transitive patients (P). She examined spontaneous intentional gestures of language-delayed deaf children from two nominative/accusative cultures, America and China, and found that they follow an ergative pattern, despite the non-ergative gestural patterns from their parents. Thus, Goldin-Meadow suggests that all languages show a pre-linguistic bias towards ergative patterns that are eventually outweighed by competing demands of nominative/accusative structures.

Pye (1990) discusses the learnability problems associated with acquisition of ergative languages, where children must learn to distinguish between the subjects of transitive and intransitive verbs[8]. Pye examines the acquisition of morphological ergative systems through a distributional learning model, which counters theories that predict that children will first learn to distinguish between subjects and objects of transitive verbs and then extend the appropriate case-marking to the subjects of intransitive sentences. Distributional learning "predicts that children will use case markers and cross-reference markers accurately from the time they first appear in their speech," even split-ergative

[8] Some researchers (see Mithun and Chafe 1999) would disagree that there is a learnability problem at all acquiring different case-marking on subjects vs. agents as with ergative language, such that ergative languages can be understood as grammaticalizing 'immediacy of involvement" vs. nominative/accusative languages which are understood as grammaticalizing "starting point."

languages, provided that "the children's input includes examples of the different subject-marking systems" (Pye 1990, 1293).

Acquisition data from a number of studies have shown that ergative structures may emerge early depending on the way that ergativity is structured in the language. Ezeizabarrena and Larrañaga (1996) found that in Basque, a typical ergative language, absolutive (the unmarked case) was acquired with more ease than ergative, with full ergative usage acquired later. They also found that ergative verbal morphology was acquired before case morphology. The different developmental patterns observed in noun and verb morphology can be accounted for by the differing relationship of verb and noun morphology to the argument structure of the verb; verb morphology is considered a primary characteristic of argument structure, but case is a related but not primary feature. The first ergative case usage still appeared as early as around 2;0, but was not considered acquired until 2;04.

Additionally, Saleemi (1995) discusses issues in the acquisition of split-ergativity in Urdu, suggesting that the ergative appears at roughly 1;9-2;0 years of age. The data suggests ergativity is acquired first and then children move into a split-ergative period, but overgeneralizations do not occur before split-ergativity emerges.

Schieffelin (1985), based on data from Kaluli, suggests that ergative inflection first appears on subjects of verbs that involve manipulative physical action. Similarly, Imedadze and Tuite (1992) find that the order in which different cases emerge in Georgian depends on when children distinguish between different classes of verbs. In Georgian, there are two main classes of verbs, ones that can assign ergative case (class A) and ones that cannot (class P), and those classes are further divided into two subclasses or conjugations, differentiating between different stem types for future and present. Ergative case-marking specifically occurs on the subject of transitive verbs and third conjugation

intransitives in the aorist tense only in class A verbs, making Georgian a split-ergative language (Imedadze and Tuite 1992, 50). Before the ergative case appears in Georgian, children must first develop an awareness of the two verb classes and of the different tenses. Children still, however, seem to acquire ergative case morphology around age 1;8. Finally, Slobin (1992) suggests that "children do not appear to assign case-marking on nouns strictly in terms of transitivity" but rather ergativity seems to be most natural in contexts where the action is completed, such as with past tense of perfective aspect (9).

Research on Kaluli and K'iche' also suggests that children acquire the morphological systems of ergative languages early (before three years old) and equally easily as accusative languages, producing errors (overgeneralizations from one form to another) only 10 percent of the time for both types of languages (Ochs 1982; Schieffelin 1985; Pye 1990, 1992). When discussing a move from an initial stage of correlation building to generalization extraction, where the child will apply the construction to new items, as evidenced in overgeneralizations, Pye examines the amount of regularity needed to prompt the generalization procedure. This regularity can be considered to have three components (1293):

1. the degree to which the morphology is consistently ergative or accusative;
2. the degree to which adults use the morphology;
3. the degree to which the morphology marks a productive lexical class in the language.

With regard to the first point, split-ergative languages are less consistent than fully ergative languages in their marking of ergative morphology, often combining nominative/accusative and ergative/absolutive case-marking systems. For instance, in a system with a tense-aspect split, ergative morphology may only appear in the past tense; thus children receive input for the ergative construction only when exposed to past-tense

constructions and receive counter information when exposed to present-tense constructions.

Moreover, regarding the second issue of the extent of adult usage of the morphology, adults may vary greatly in the amount that they use the morphology, thus affecting how much input is available to the child, often due to pragmatic functions. For instance, Ochs (1982, 1987) studied the acquisition of ergative case-marking in Samoan, indicating that it rarely appears in the speech of 2-4 year-old children. She argued that the relatively late acquisition of ergative case-marking results primarily from the fact that expression of the case-marker in adult Samoan is sociolinguistically variable, with speech between household members showing the lowest frequency of expression of the case-marker.

Finally, the third point refers to a difference between open and closed lexical classes. Research has suggested that in both English and German, children produce more errors with pronouns and articles (closed class), continuing into later ages, than with nouns (open class) (Pye 1990; Mills 1985).

Thus, although research suggests that ergative/absolutive morphology is acquired as easily as nominative/accusative, what effects regularity in use and variability in input may have on the acquisition of split-ergativity is still a question, since children receive what could be claimed to be contradictory input about how to case-mark S, O and A under different conditions (i.e., different tenses). Do children overgeneralize the ergative or nominative case-marking systems when confronted with a split system? In addition, what role does variability in the input for children have on the acquisition of ergative and split-ergative languages?

2.4. VARIABILITY IN THE INPUT

Much previous research on child language acquisition did not consider the possibility that children are presented with a variety of input from various caretakers and community members; rather research concentrated on a target language which was based on a single grammar that exhibited no variation. However, language has inherent variation[9]. As Henry (1998) suggests:

> in reality it is the case that the child acquires languages from the output, not of a single individual, but of a number of individuals, whose grammars may not be identical. There are not inconsiderable differences between the grammars of individuals, at a dialectal and indeed idiolectal level (51).

While much of the variation present in language is systematic with specific constraints on the distribution of the various forms, some languages have variation that is fully unpredictable or inconsistent, often stemming from language change in progress as well as inherent variation that can be modeled in terms of extralinguistic social or contextual factors. Thus, children may receive inconsistent input from variable grammatical systems from which to acquire language. Roeper (2007: 37) refers to optionality as two alternatives that are both known and equally adequate. Therefore, while input may give children inconsistent linguistic forms to acquire, the variable forms may all be equally learnable and viable to the child.

When faced with inconsistent input, a number of possibilities arise for child acquisition. First, children may regularize the input and thus reduce the possible forms to one. Second, they may acquire the variation and use the linguistic forms with the same constraints as the adults in the community, thus showing roughly similar usage as the adults. In addition, when receiving input where the variable forms are used with different

[9] Variation may arise from a number of sources, such as semantic or pragmatic distinctions or from sociolinguistic factors in adult speech.

frequencies, children may acquire the variable forms at different ages, presumably the more frequently heard forms being the earlier.

A number of studies have suggested that children can regularize variable forms; Hudson Kam and Newport (2005) and Singleton and Newport (2004) have suggested that children in fact regularize inconsistent grammatical morphemes present in the input. In the former study, Hudson Kam and Newport investigated the possibility that in the formation of pidgins and creoles, children take inconsistent input, and through regularization, languages lose their unpredictable grammars. In the latter study, Singleton and Newport examined a deaf child's acquisition of ASL when provided with inconsistent input from parents who were late learners of ASL. They found that the child was "capable of acquiring a regular and orderly morphological rule system for which his input provides only highly inconsistent and noisy data" (371). Research by Henry (1998, 2002) shows that children who receive variable syntactic input from two different dialects of English nonetheless do not end up bi-dialectal, like a bilingual child who learns two completely different languages, but rather end up with a single grammar. Henry (1998) refers to this phenomenon as the 'learnability guarantee'.

Alternately, Westergaard (2009), investigating the acquisition of variable word order patterns in a dialect of Norwegian, found that the variation was not due to regional or sociolinguistic variation, but rather there was "simply extreme variation with respect to word order" in that dialect (56). Interestingly, members of the community were unaware of the syntactic variation and the frequencies of use of the two possible word orders. Children were then found to be sensitive to the distribution of the word order variation early on and mirrored the frequency of use of adults in the community.

Other studies have found similar results. Kovac and Adamson (1981) investigated the use of finite *be* by children in the U.S. They found that three-year old African

American children omitted the *be* verb less often than teenage African Americans, but by the ages of five to seven, they increased their *be* deletion to levels more closely aligned with the language norms of their speech community. In addition, Roberts (1997), studying the acquisition of (-t,d) deletion among three to four-year old Philadelphia children, found that children seemed to be acquiring the same use of deletion as adults. Children were learning socially significant features, results which suggest that variation may be learned along with the related grammatical forms.

Finally, some research suggests that there may be a delay in acquiring inconsistent or variable forms. Roeper (1997) suggests that the use of some linguistic forms may be haphazard until case assignment is realized; then the linguistic form is no longer optional (39). Miller (1997) and Miller and Schmitt (1996) found that in dialects of Chilean Spanish, plural marking is variable and inconsistent and thus children's comprehension of plural morphology is delayed. Miller (1997) posits the Variability Delay Hypothesis which states:

> variability in the input will delay child comprehension of grammatical morphemes when the variability causes an ambiguity in the input (involves a zero form) and is constrained not only by linguistic (phonological, grammatical) but also extra-linguistic (SES, age, sex) factors (17).

Thus, children seem to acquire linguistic forms that are variable and thus inconsistent or infrequent in the input that they receive, although that acquisition may be somewhat delayed. Research, however, suggests that children can acquire "variable forms of a language at an early stage, reflecting the proportion in which the variants occur" in caregiver input (Henry 2002, 278). The acquisition of variable forms supports Pye's argument that the acquisition of ergative languages reflects the degree to which parents use the structures. Ultimately, children acquire the grammar of the speech

community to which he/she belongs, in order to be considered a native speaker of that of community (Henry 1998).

Chapter 3: Research Studies

This chapter discusses the research studies conducted in this dissertation including a brief overview of the methodologies used. First, the main questions for the studies are presented. Then, the setting in Turkey where data collection took place is discussed followed by a description of and rationale for the data collection and analysis procedures.

3.1. Research Objectives and Questions

This research strives to examine the acquisition of split-ergative morphological case-marking and word order in Kurmanji. While acquiring this split-ergative system, children are faced with, first, learning case-marking of grammatical relations based on a tense split and, second, contending with significant variable and inconsistent distribution from caretaker input, at least partly due to the ongoing change in the split-ergative system.

With regard to the split-ergative system, children acquiring Kurmanji must learn to case-mark agents and patients differently in the present and past tenses. Kurmanji presents an interesting situation for the acquisition of ergative language since the same case forms are used in both the present and past tenses, direct and oblique, but the use is switched between agent and patient depending on the tense; i.e., direct case is used for present-tense agents and past-tense patients and the oblique case is used for present-tense patients and past-tense agents. Thus, my question is this: would this situation lead to late-emergence of the split-ergative system or to errors, such as the omission or overgeneralization of forms from one argument to another or from one tense to another?

In addition, in light of suggestions by Pye (1990) regarding the regularity of case-marking systems and the consistency with which adults use those systems, Kurmanji also poses an interesting problem since, as noted, adults show highly variable and inconsistent

use of case-marking that does not seem to be systematically constrained by grammatical, pragmatic, or sociolinguistic factors. Thus another goal of this study is to examine whether children regularize the input they receive and use a more strict nominative/accusative case-marking system than the adults in the community or whether they reflect the patterns of usage of adults.

Thus investigating how children acquire case-marking in Kurmanji is a complicated task due to the highly inconsistent use of case-marking by adults who show a great deal of intra-speaker and inter-speaker variation. It may be difficult to identify the stages of development of children or provide a rigorous error analysis since the case-marking system in the community does not seem to provide researchers a consistent norm or model by which to judge children's output. However, if general patterns in the adult community can be ascertained, then an assessment of children's acquisition can be attempted.

Thus data for this study included results from an elicited production task as well data from spontaneous, naturalistic recordings. The elicited production task aimed to provide a number of target transitive sentences in order to compare case-marking patterns across adult members of the community. The task was also conducted with children to provide a basis for comparison with the adult community. Spontaneous, naturalistic data from individual adults and children were also gathered to determine the nature of the input from adults, more general patterns in the acquisition of split-ergative case-marking, and the age and rate of acquisition.

The main questions to be answered include:

1. What are the general case-marking and word order patterns displayed in adult speech?

2. At what age do children start to productively use the case-marking and word order systems?
3. What is the developmental pattern in the acquisition of case and word order?
4. What aspects of the split-ergative system are displayed by children?

3.2. SETTING

Data collection took place in a rural area near the city of Erzurum, the largest city in eastern Turkey with a population of approximately 650,000. It is a nationalist center in Turkey with a socially conservative population. Although the city is majority Turkish with only a 16 percent Kurdish population, the surrounding villages, especially to the south, are majority Kurdish. This Kurdish area is on the north-westernmost edge of the entire Kurdish-speaking area in the Middle East. The main source of income in the villages is animal husbandry, and the socio-economic level and living standards of most of the villages is fairly low compared to the city, with a lack of infrastructure, such as running water and inconsistent electricity.

The main language in the villages is Kurmanji Kurdish, although the official national language is Turkish. The men in the village speak Turkish as a second language, with varying degrees of proficiency since most served in the military or attended at least primary school, which is in Turkish. Some women, especially older women (middle-aged and elderly), are monolingual in Kurmanji, most likely because they did not attend school. Children in the villages have access to Turkish only if their parents use Turkish or through television. Consequently, many children in the villages know only Kurmanji until they enter school, which is mandatory for all children in Turkey starting at the age of seven. However, many children do not continue past middle school, when they would have to leave the village for education in the nearest town. Few people from the villages attend high school, and even fewer have attended university. In the villages, there is

prestige associated with speaking Kurmanji, as Kurdish identity is strong in these areas. Therefore the mode of communication in the villages is overwhelmingly Kurmanji, as it is for the surrounding area.

Data collection took place in two neighboring villages approximately 37km (one hour) from the city of Erzurum. One village had approximately 20 families (approximately 100 people), many related to one another, and the other had approximately 80 families (approximately 400-600 people). These villages are rather isolated, separated from Erzurum by the Palandöken Mountain, the second highest peak in Turkey. The only way to the village is by minibus over unpaved mountain roads. There are many other villages in the same county, Tekman; the county has a population of approximately 32,000 people and the county seat 11km from the villages, has approximately 4700 people[10].

I gained access to the villages and participants through family connections. The smaller of the villages is where my husband's family lives and where he partially grew up. As the wife of a peripheral member of the community, I was also accepted as a peripheral member and thus had the ability to conduct this research, gathering ethnographic data about the community, and had few problems recruiting participants for the study. My husband's family is mainly Kurdish-speaking, although his mother is Turkish and knows that language. Some other members of the family do know Turkish, although not all. He also has an extensive extended family in the same village and in other villages in the surrounding area, especially in the larger of the villages where data collection took place.

[10] All population data were obtained from Tekman's official government's (Tekman Kaymakamlığı) website (http://www.tekman.gov.tr/). The population for the larger village, where only two of the child participants lived, was listed at between 400 and 600, but there was no data for the smaller village. I based the approximate population on my knowledge of other villages of the same size and the population they had listed.

Since the participants in this study are all from two neighboring villages, where there are few differences in socio-economic status and lifestyle within the village, the characteristics of children's households, of caretaking, and of linguistic input are similar for all participants. All households in these villages consist of one building with at least two rooms that served as living and sleeping space, with an attached kitchen set somewhat apart from the living space and separated bathroom. At the time of the data collection, there was no running water in the villages; women fetched water from a well that was centrally located in the village. Each household contained extended family, mostly consisting of a child's parents, grandparents, and uncles, aunts and cousins. It was not uncommon for two or three siblings to live in the same house with their spouses, children and parents. Houses in the village are also set close together, surrounded by their farmland, usually distant from other villages.

Social interactions are generally segregated by gender; men and women often do not eat together, even in the same household, and women did not speak to non-related men. However, there are few private spaces since the villages have an "open-door" policy; women and men from different households help other households with chores and childcare or just visit to talk and drink tea, often with no forewarning and no knocking. Children especially have almost free rein throughout the village and can enter any house and stay there for any length of time. In fact, children do not spend much time in their own house, especially in fair-weather months, and are often in the company of other children. When children are home, they are eating, doing homework, or interacting with adults who are taking breaks from their chores, especially grandparents.

When it comes to taking care of children, the main caretakers greatly depend on the make-up of the households. Parents are responsible for household and farm chores, and are therefore occupied during most of the day outside the household living space. If

there are grandparents living with the family and they did not have to work (i.e., there were others to do the necessary tasks), then they would be in charge of young children during the day and would watch them, feed them, and play with them. Either grandmothers or grandfathers could be caretakers during the day. If no older family members were available, older siblings, mostly sisters, would be in charge of caring for younger children in the absence of the parents. Additionally, young aunts and uncles are often responsible for child care. Finally if circumstances allowed, mothers were responsible for child care rather than fathers.

Aside from practical issues such as who is available to be a caretaker, cultural and social norms also create restrictions on who can interact with children. In this area, when older family members are present, parents do not talk to or interact with their children. As was explained by members of the speech community, interacting with one's child in the presence of older family members is considered to be rude and disrespectful. The caretaker role then falls to others – even discipline is commonly taken care of by the next oldest male, i.e., an uncle, not the father or grandfather. Therefore, in these multi-generational households, according to conventions, parents often are not free to interact with their children a majority of the time[11].

Thus, in this Kurdish-speaking village, child-directed speech generally comes from grandparents, young adults, and older children. Child-directed speech contains a great deal of social conditioning, i.e., social norms (how to be a good girl or boy, what to do and what not to do) and disciplining as well as singing and some playing. Playing is mostly done with other children, and is led by older children. Familiar elements in child-directed speech in Western culture, such as naming items and reading in books, are not

[11] The information about restrictions on speech in this Kurdish area was gained through my own ethnographic observation of society and family organization. I have not found any previous literature on the subject of restrictions on parent-child interaction in the presence of elders in previous literature on Kurdish-speaking areas nor in other anthropologic work.

common in this area. By and large, children do not receive very much direct input from adults. However, children are freely admitted to most settings in the village and no topics are avoided in the presence of children, so children often participate as passive on-lookers to adult interactions, but are not generally treated as ratified conversation partners.

3.3. DATA COLLECTION

Due to the lack of any previous literature on acquisition patterns in Kurmanji and the lack of concrete data on patterns of usage by speakers in the area where the study took place, both spontaneous, naturalistic speech samples and an elicited production task were used to assess the patterns of usage of adults and the acquisition of those patterns by children. These data help give a general idea of what the case-marking patterns are in the general community.

The spontaneous, naturalistic data were used to assess general patterns in word order and case acquisition and to investigate the kinds of input that the children received. The collection of spontaneous, naturalistic speech is a useful way to provide a corpus of data to investigate broad questions about general developmental trends for a given language (Demuth 1998; Stromswold 1998). Stromswold suggests that advantages to using spontaneous speech data are that such data are "least likely to be affected by extraneous experimental task demands" and are useful for studying syntax longitudinally (1998, 25). Spontaneous data are especially valuable here considering the lack of previous data about the development of language in this community. The corpus of speech samples was collected using a cross-sectional, semi-longitudinal design. The method for collection of these speech samples is detailed in Chapter 5.

A problem with using data solely from spontaneous speech samples is the potential for a child not to produce particular syntactic constructions, even if he/she has acquired it (Stromswold 1998, 25). Thus, in order to study the acquisition of case and

word order, I used an elicited production task to obtain data in a controlled environment specifically designed to elicit agent and patient case-marking. Elicited production is "designed to reveal children's grammars by having them produce particular sentence structures" (Thornton 1998, 77). Elicited production is a way to supplement data from spontaneous speech samples by gaining control over the meaning associated with the target utterance and by gaining a robust sample of complex syntactic structures that may rarely occur in spontaneous speech (Thornton 1998).

Participants in both spontaneous speech and the elicited production task included Kurmanji-speaking adults and monolingual Kurmanji-speaking children. Some of the adults were monolingual in Kurmanji, and although most of the adults knew Turkish to some degree, they did not use it on a daily basis in the village. Thus, speech samples from adults contained little, if any, Turkish. Adults were asked to take part in the elicited production task to provide an understanding of case-marking patterns present in the adult community. In addition, for the spontaneous speech samples, children were recorded in interaction with their caretakers, thus making available child speech samples and samples of input from caretakers.

I obtained active verbal consent from all participants. In this area, there are major difficulties in obtaining written consent. First, since Kurdish, in Turkey, until just recently has not been written, it would have been difficult to produce a written, understandable document for consent in Kurmanji. In addition, many of the participants' caregivers could either not speak Turkish or may not have been literate in order to read and understand a consent form written in Turkish. Finally, in the area of Turkey, people are willing to be participants, but are very wary of signing documents, especially in the Kurdish areas. Therefore, I made available a written document in Turkish for those participants who were literate in that language and also had the document read in

Kurmanji by a bilingual native-speaker of both language to all participants and obtained unrecorded verbal consent.

3.4. DATA ANALYSIS

In order to answer the research questions, data from the elicited production task and spontaneous, naturalistic speech samples were analyzed to determine what case-marking and word order patterns exist in the adult speech community and then to assess the children's acquisition of these patterns. Data from adults were analyzed in terms of what the patterns were and what factors may affect their use of these patterns. Children's data were then compared to adult results, looking at developmental differences at different ages.

Data For the elicited production task were coded and statistical analyses were performed to assess the effect of speaker age, word type, and grammatical relation on the use of split-ergative case-marking. The analysis of the adult data attempted to establish patterns for case-marking and word order use in this particular community. The data from children were analyzed in the same way and then compared to the adult data to discern any differences that could be caused by regularization of case-marking and word order.

The spontaneous, naturalistic data were also coded and analyzed to assess case-marking and word order patterns present in the data. Child data were analyzed separately for each child at each age, tracking changes between ages to ascertain developmental patterns. Adult data were seen as a means to establish community patterns as well as to discern what kind of input each child received. Detailed descriptions of the analysis procedures for the spontaneous, naturalistic data and for the elicited production task are presented in Chapters 4 and 5.

Chapter 4: Naturalistic Data

Spontaneous, naturalistic speech samples were collected to assess the usage patterns of adults, the nature of child-directed speech (direct input for children), and the age and order acquisition of those patterns by children. The collection of naturalistic spontaneous speech is a useful way to provide a corpus of data to investigate broad questions about general developmental trends for a given language (Demuth 1998; Stromswold 1998). Such data are especially valuable here considering the lack of previous data about the development of this language in this community.

First the methodology is presented, including the participants, data collection procedures, and analysis methods. Then the results are detailed for both case-marking and word order. Finally, there is a discussion of the results.

4.1. METHODOLOGY

The corpus of spontaneous, naturalistic speech samples was collected using a cross-sectional, semi-longitudinal design. Children, grouped according to age and sex, were followed systematically over the course of 12 months.

4.1.1. Participants

Child participants included 12 typically-developing monolingual Kurmanji-speaking children between ages 1;6 to 4;3 at the time of the recording. These 12 children were grouped according to sex and age at the start of the data collection; there were 4 children each from 3 age groups, 1;6, 2;6, and 3;6, and in each group there were 2 boys and 2 girls. Table 4.1 below shows each participant (using pseudonyms), their ages at the times of the tapings, and their MLUm (mean length of utterance in morphemes). MLUm

was computed using the CLAN (Computerized Language Analysis) program in the CHILDES database (MacWhinney 2000).

Table 4.1: Child Participants for Spontaneous, Naturalistic Data

		Taping 1		**Taping 2**		**Taping 3**		**Taping 4**	
Participant	**Sex**	**Age**	**MLUm**	**Age**	**MLUm**	**Age**	**MLUm**	**Age**	**MLUm**
1. Berfin	F	1;6	1.0	1;9	1.0	2;0	1.1	2;3	1.8
2. Edanur	F	1;6	1.0	1;9	1.7	2;0	1.9	2;3	2.1
3. Yusuf	M	~2;0	2.0	2;3	2.2	2;6	2.4	3;0	2.5
4. Selam	M	~2;0	2.1	2;3	2.3	2;6	2.6	3;0	2.8
5. Dilan	F	2;6	2.4	2;9	2.2	3;0	2.5	3;3	2.6
6. Rojin	F	2;6	1.6	2;9	1.8	3;0	1.7	3;3	2.0
7. Serkan	M	2;5	1.7	2;8	2.0	2;11	2.1	3;2	2.5
8. Resul	M	2;6	1.9	2;9	1.9	3;0	2.2	3;3	2,5
9. Aslı	F	3;6	4.6	3;9	4.0	4;0	4.8	4;3	4.9
10. Sonayi	F	3;6	3.5	3;9	3.8	4;0	3.7	4;3	4;1
11. Ömer	M	3;6	2.9	3;9	3.5	4;0	3.8	4;3	4.0
12. Davud	M	3;6	2;6	3;9	2.7	4;0	3.0	4;3	3.5

Child participants were recruited based on a number of criteria. First, they had to be monolingual in Kurmanji. While it is generally the case that children are monolingual in Kurmanji until they enter school, some children get some exposure to Turkish if their parents think it is important that they learn Turkish, which is the rare case, or if they have older siblings who attend school and use some Turkish at home, which is the more common case. I observed children with their family and friends to ensure that they were monolingual in Kurdish.[12]

Second, children had to fit into the approximate ages (1;6, 2;6, and 3;6) at the start of the study. Confirming children's ages was a difficult task since in this area people do not accurately record birthdates, so it is possible that children were not the exact age required for the study. In fact, the families of the two boys recruited for the youngest age

[12] Complete non-exposure to Turkish is virtually impossible if the child has ever listened to outsiders visiting the village (the present researcher included), gone to the main town, or watched TV. However, if their parents claimed that they did not know Turkish and I observed that they did not understand Turkish or produce any Turkish utterances, I considered them to be monolingual in Kurmanji.

group reported their ages as 1;6, but after starting the recording sessions, it seemed that the boys were in fact older. Since their recording sessions had already begun, it would have been difficult to find replacements for these children, so I kept them in the study.

Third, their parents/families had to be willing to participate over the course of the entire year. This willingness entailed trusting me as a researcher and as a legitimate peripheral member of the community, since—due to the turbulent political history of the area—outsiders are usually not trusted, especially when recordings are involved. Thus, participants were recruited from the social networks of my husband's family to avoid any problems.

A number of different caretakers participated in the spontaneous data collection often changing during the same recording session. As mentioned in section 3.2 it is common for extended families to live together in the same household, so caretakers often included grandparents, aunts, and uncles, with many older children present. Often, children do not interact very much with their parents, receiving much of their language input from grandparents, older siblings, or adolescent/young aunts and uncles. Participants in recording sessions reflected this tendency, with children interacting with different caretakers at different times. During a single recording session, sometimes there was only one caretaker present while during other session, two or more were present and came and went according to their daily routines. Appendix D includes information about each recording session, including the participants.

4.1.2. Data Collection

Participants were recorded in child-caretaker interactions in a familiar home setting. Each group was followed longitudinally for one year, with video- and audio-recordings every third month for approximately one hour each for a total of 4 recording sessions over a 12-month period.

The recording sessions took place in the participant's home or a neighbor's home.[13] The sessions included a common set of activities, age-appropriate toys, and/or games to prompt speech. Everyday conversations or tasks with adult caregivers such as eating a meal or playing were augmented with activities that involved telling stories, talking about pictures in a book, describing what is going on in a book or on TV, or imitating adults. Appendix D lists where each recording session took place and the activities involved.

In each recording session, the video-recorder was set on the far side of the room from the child to capture all events in case the child moved around the room. A wireless microphone was placed close to the child's original position in order to enhance the audio quality of the recording. Recordings began after the child became comfortable with the surroundings. I was not present in the room during recordings so that the child would feel as comfortable as possible to speak. However, I remained close by to monitor the situation and to resolve any technical or other issues that may have come up.

Within reason, recording sessions were conducted as naturally as possible, inasmuch as I hoped to capture typical interactions between children and their caretakers. In many typical interactions that included the child participant, other children would also be present, perhaps inhibiting the participant's speech or making transcription impossible and thereby not yielding ample data to conduct this study. Therefore, the recordings were somewhat artificial in that other children were generally excluded from the room. In addition, in this culture, children generally do not eat meals with adults, and meal-times are not for talking, so very rarely was a recording session conducted during meal-time.

[13] In these small villages, where everybody knows one another, children are free to roam around and go to visit neighbors at will. Therefore, if it was more convenient (their house was being used for something else, they were out playing there, etc.) recordings took place at a neighbor's house where the children felt comfortable.

4.1.3. Data Analysis

The recordings were first transcribed, then coded and analyzed. In this section, first, transcription methods are described followed by the coding procedure. Finally, analysis techniques are detailed.

All recordings were transcribed by a native speaker of Kurmanji, who was also a member of the same speech community as the participants in the study. Video recordings were downloaded to a computer and converted for use with the ELAN (EUDICO Linguistic Annotator) transcribing software. I trained the transcriber in how to use the computer, the video-recorder, and the transcribing software. I also trained the transcriber in transcription methods, providing the alphabet to be used and emphasizing that transcriptions should be true to form (i.e., no corrections). The transcriber, who also attended most recording sessions with me, transcribed videos as soon as possible after the recordings, usually within one to two weeks. I assessed the reliability of the tapes by checking randomly selected passages with another native Kurmanji speaker as well as reviewing portions myself.

I coded the transcriptions using the CHAT (Codes for the Human Analysis of Transcripts) format in the CHILDES (Child Language Data Exchange System) program[14] (MacWhinney 2000). For this dissertation, 15 minutes of every hour of recording, minutes 5-20, were coded for analysis. As a relative novice in Kurmanji, I used the Bedirxan and Lescot *Kurdish Grammar* (2000) and other research conducted on Kurmanji as my guide to the grammar as well as Chyet's *Kurdish-English Dictionary* for orthographic conventions. Finally, I used my training in field methods and linguistic analysis to fill in any gaps I could not identity from these resources.

[14] Data were coded using CHILDES in part to fulfill the National Science Foundation requirements of data sharing as CHILDES makes the transcriptions widely available online.

The CLAN programs, also part of CHILDES, provided various means to analyze the data. For each data set, in this case, the 15-minute segment from each recording session, CLAN generates an MLU, number of utterances, number of morphemes, total words, different word types, and a type/token ratio. MLU was important in establishing developmental stages since the ages of the participants were often not certain (see Section 4.1.1).

For analysis, I searched for all instances of transitive clauses used either by the child participants or their caretakers. I analyzed the caretakers' utterances first to establish the type of input the children were receiving, i.e., whether or not they used split-ergative case-marking and SOV word order. Establishing the kind of input children receive is especially important in this study due to the changing nature of split-ergativity in Kurmanji. The results from the caretakers, some of whom were parents and grandparents and some of whom were older siblings, are discussed in groups roughly according to age, i.e., results from grandparents are discussed together while those from parents and young siblings are discussed separately.

For caretakers, I counted the number of transitive clauses for each participant and evaluated whether those utterances conformed to split-ergative case-marking and SOV word order. In terms of case-marking, if the utterance did not conform to the split-ergative pattern, I analyzed whatever differences emerged, i.e., use of oblique case for patients in the past tense or direct case for patients in the present tense. For word order, I analyzed whether the utterance had SOV word order, and if not, what may have caused the change in word order, such as topicalization or focus or error.

I then examined the transitive utterances produced by the children. I looked at use according to the three child age groups set up at the beginning of the study: 1;6-2;3, 2;6-3;3, and 3;6-4;3. As for the caretakers, I counted the number of transitive utterances for

each participant. Then I determined the shape of each transitive utterance in terms of case-marking and word order.

While analyzing the data from children, I attempted to determine the *age of first use* defined "as the age at which a child first used a clear, novel example of a construction"[15] and the *age of repeated use*, "the age by which a construction either had appeared five times or had appeared twice in one month" (Stromswold 1998, 45). However, since I have limited data from any one particular child, having only followed children for one year with 4 recordings per child, the age of first use for a particular child may also be the same as the age of repeated use. Then, I assessed at which age children started using both present and past tense transitive structures. Finally, I determined at what age children showed repeated use of present and past tense transitive structures.

Once children showed repeated use of transitive structures, I then considered if the utterance was well-formed or not, i.e., contained any errors. I distinguished between errors of omission, where an obligatory element is omitted, from errors of commission, where an element in the utterance is used incorrectly (Stromswold 1998, 33). Normally, a transitive sentence in Kurmanji would be considered well-formed if (1) it had SOV word order, (2) in the present tense, the agent had direct case, the patient had oblique case, and the verb agreed with the agent, and (3) in the past tense, the agent had the oblique case (OBL), the patient had the direct case (DIR), and the verb agreed with the patient.

For this study, errors were difficult to establish due to the state of split-ergativity in this language community. However, in order to make any assessment of usage at all, I first considered an utterance as well-formed if it had SOV word order and split-ergative case-marking. However, if an error appeared, I judged whether the "error" could have been due to change in the split-ergative system. For instance, if an error of commission

[15] I consider a novel example to be an utterance where the child does not simply repeat what an adult says, but uses the construction independently.

was due to the use of the wrong form of the OBL, yielding? an incorrect inflection on a noun, I considered that an authentic error. However, if an error of commission was due to using OBL on a patient in the past tense, I could not consider that an authentic error since a similar pattern could be seen in the adult community and therefore in the input the child might receive.

4.2. RESULTS

4.2.1. Caretakers

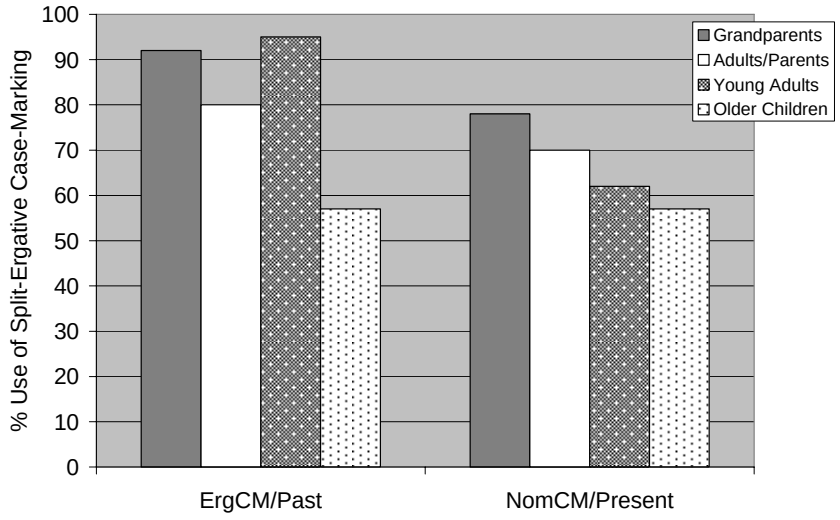
Caretakers included the people who were interacting with the children in the video-tape recording sessions. In these recording sessions, care was taken to include people with whom the children interacted often on a daily basis. Not only would the child feel most comfortable speaking with their more common conversational partners, but the resultant sample would help us understand that child's typical language input. In this area, as discussed in chapter 2, a multi-generational extended family typically lives within the same household; therefore, children receive a large amount of input from speakers from many different age groups, ranging from older siblings to grandparents. Appendix D lists all the participants in the study including their ages and relationships to the children.

In this section, for analysis, I organized the caretakers roughly by age into four groups: grandparents, adults, young adults, and children/adolescents. Table 4.1 shows the number of transitive utterances in each tense for each group as a whole, along with the case-marking pattern of those utterances. Figure 4.1 shows the percentage use of split-ergative patterns by each of these age groups; the percentage use compares the number of utterances—including utterances with null arguments—conforming to split-ergative patterns to the total number of transitive utterances.

Table 4.2. Caretakers' use of case-marking in spontaneous speech samples

		DIR-DIR	DIR-OBL	OBL-OBL	OBL-DIR	DIR-Ø	OBL-Ø	Ø-OBL	Ø-DIR	Total
Grand-parents	**Present**	35	**42**	0	0	**84**	0	**5**	2	168
	Past	1	1	0	**8**	0	**8**	0	**6**	24
Adults	**Present**	63	**65**	0	1	**86**	0	**8**	5	228
	Past	0	6	15	**53**	0	**27**	7	**32**	140
Young Adults	**Present**	65	**37**	0	2	**70**	0	**15**	7	196
	Past	1	1	3	**59**	0	**31**	0	**2**	97
Older Children	**Present**	78	**43**	5	8	83	4	**21**	12	254
	Past	0	2	20	**5**	0	**23**	2	**4**	56

Figure 4.1. Split-Ergative Case-Marking by Adults and Children



In the following sections, I detail the patterns used by the caretakers in terms of their use of split-ergative case-marking, i.e., whether or not they used a nominative/accusative case-marking (NomCM) pattern in the present tense or an

ergative/absolutive case-marking (ErgCM) pattern in the past tense. I then analyze those utterances compared to ones that do not conform to a split-ergative pattern.

4.2.1.1. Grandparents

There were six different grandparents in eight of the recording sessions; they ranged in age from 42 to 60. Table 4.2 shows their case-marking patterns for all of their transitive utterances in both tenses. The results suggest that older adults are using patterns similar to those found in the split-ergative literature. When combined with utterances with a null agent or patient, 76% of present-tense utterances conform to the NomCM pattern.

In the present tense, the most common pattern with two overt arguments was DIR-OBL, which is the canonical case-marking pattern for the nominative/accusative system. For example, in Examples 1 and 2, a grandparent, while playing with some play-doh, used a DIR-OBL pattern.

Example 1:

ez	simîtê	çedikim
1s-DIR	pretzel-OBL	make-PRES, 1s

'I'm making a pretzel.'

Example 2:

tu	pastan	ji	kîra	çedikî
2s-DIR	cake-OBL-PL	for	who-DAT	make-PRES, 2s

'Who are you making the cakes for?'

The most common pattern overall in the present tense also adhered to the split-ergative pattern, with the agent in the unmarked DIR form, but with the patient NP being omitted. Arguments in Kurmanji are often omitted if they are understood in context. For instance, in Example 3, a grandparent asks a child if she is going "to make (it) like that," with the patient omitted.

Example 3:
tu ver çedikî
2s-DIR like make-PRES, 2s
'Are you going to make (it) like that?'

Importantly, a DIR-DIR pattern, which deviates from NomCM expected in the present tense, was also fairly common. For example, Examples 4, 5, and 6 show instances where both agent and patient are in the DIR form.

Example 4:
ez simît dikim
1s-DIR pretzel-DIR do-PRES, 1s
'I'm going to make a pretzel.'

Example 5:
ez jî qelem dikim
1s-DIR also pen-DIR do-PRES, 1s
'I'm also going to make a pen.'

Example 6:
Paste çedikî tu?
cake-DIR do-PRES, 2s 2s-DIR
'Are you going to make a cake?'

In fact, the majority of the sentences in which the patient was in the unmarked DIR form had patients that were nouns, especially masculine nouns, which the literature has suggested are losing their case. Thus, this result is not completely unanticipated considering the language change occurring in Kurmanji. Finally, there were a few sentences with the agent omitted, only seven altogether, which had either OBL or DIR patients; Example 7 has a DIR patient and Example 8 has an OBL patient.

Example 7:
Ayşegül Yengera bazin dikrim
Aunt Ayşegül -DAT pen-DIR give-PROG, 1s
'I'm going to give Aunt Ayşegül a bracelet.'

Example 8:
Tope zanî çedikî
Ball-OBL know-PROG, 2s make-PROG, 1s
'Do you know how to make a ball?'

Results from the past tense suggest a more strict overall adherence to a split-ergative pattern with 92% of utterances conforming to an ErgCM pattern. The most common pattern in sentences with two overt arguments was OBL-DIR. Example 9 presents a typical sentence from the data for an OBL-DIR sentence in the past.

Example 9:
Mî qelem çekir.
1s-OBL pen-DIR make-PAST, 3s
'I made a pen.'

Two other patterns with two overt arguments were DIR-DIR and DIR-OBL, but they were represented by only one utterance each. More frequent were sentences in which one argument was omitted: OBL-Ø and Ø-DIR. Example 10 presents an utterance with an OBL- Ø pattern and Example 11 presents one with an Ø-DIR pattern.

Example 10:
te çer rin çekir
2s-OBL how well make-PAST,3s
'How well you made it (You did it very well)!'

Example 11:
Top çekir.
Ball-DIR make-PAST, 3s
'(I) made a ball.'

Both patterns (OBL-Ø and Ø-DIR) were common, with both still displaying an ErgCM pattern. Thus, the grandparents generally adhered to the ErgCM pattern in the past tense, while the most variability in this age group's case-marking system was present in the NomCM of the present tense.

4.2.1.2. Adults

A total of 12 adult caretakers, ranging in age from 27 to 38 years old, participated in 14 of the recording sessions. The majority of the adults were the children's mothers and fathers and/or aunts or uncles. In these sessions, adults produced a total of 228 transitive present tense sentences. As is shown in Table 4.1, the adult caretakers also showed a tendency to use NomCM in the present tense. Although the percentage of use of NomCM was slightly lower than that of the grandparents (70% vs. 78%), the difference was not statistically different ($\chi2=2.943$, $df=1$, $p=0.085$). In addition, while the adults showed a slightly higher percentage of use of DIR-DIR than did the older adults (28% versus 20%), this difference also was not significant ($\chi2=2.049$, $df=1$, $p=0.15$). One individual produced a single utterance in which the OBL form was used for an agent, which was a pronoun; no such utterances were produced by the older adults.

Adults used an ErgCM pattern in the past tense forms with similar frequency to grandparents, with no statistically significant difference between the two groups ($\chi2=1.167$, $df=1$, $p=0.28$). However, although their most common pattern with two overt arguments was OBL-DIR, which is similar to the older adults, all members of this group also used a double OBL pattern (a total of 15 tokens). Older adults never used a double OBL pattern, although older adults produced many fewer past tense transitive sentences (n = 24). Thus, in these 15 OBL-OBL utterances and in the 7 null-OBL utterances, adults used the OBL form on patients while older adults did so only one time. In Example 12, a

father uses two OBL arguments, both pronouns. In Example 13, an aunt uses two OBL arguments, one a pronoun and one a noun.

Example 12:
te me xist
2s-OBL 1p-OBL hit-PAST,3s
'You hit us.'

Example 13:
te tezeyê dit
2s-OBL aunt-OBL see-PAST,3s
'You saw (your) aunt.

4.2.1.3. Young Adults

Eight young adults participated in 17 of the recordings; they ranged in age from 17 to 26. This group was comprised of mostly young aunts and uncles or older cousins. Young adults showed roughly the same pattern of use as the adults (in the present tense) and the grandparents (in the past tense). For instance, in the present tense, young adults showed no significant difference in their use of NomCM patterns (DIR-OBL, DIR-Ø, Ø-OBL) as opposed to adults ($\chi 2=2.322$, $df=1$, $p=0.127$); although neither group used NomCM patterns more than 70% of the time.

Unlike adults and grandparents, however, young adults used the DIR-DIR pattern (33% of all present tense transitive utterances) almost twice as much as the NomCM DIR-OBL pattern. However, when compared to utterances with null agents, the pattern differs significantly; OBL patients are used more than twice as much as DIR patients. To address the significance of the transitive/null agent data as they relate to the patient data in DIR/OBL forms, a 2X2 chi-square test was performed. The result suggested that the use of the form of the patient (DIR or OBL) was associated with whether there was an

overt agent or null agent ($\chi 2=7.57$, df=1, $p<0.01$). From the data, we could postulate that the lack of an overt agent could lead to an increased use of the OBL form on the patient in order to avoid ambiguity; with both overt agent and patient present in a sentence, there is less likelihood for ambiguity about the function of each nominal. With only an overt patient, it is more likely to have the marked form of OBL in order to make clear its function in the sentence.

As for the past tense, young adults showed a strong tendency to use OBL agents, with 95% of all utterances using an ErgCM pattern (OBL-DIR). This result differs significantly from the adult group ($\chi 2=9.334$, df=1, $p=0.002$), but shows no significant difference from the grandparents ($\chi 2=0.012$, df=1, $p=0.91$). Young adults only used the OBL-OBL pattern a total of three times.

4.2.1.4. Children/adolescents

In the last group, 15 older children and adolescents participated as caretakers in a total of 40 recording sessions, by far the most frequent type of participant interacting with the younger children. However, with only 257 transitive utterances in the present tense and 56 transitive utterances in the past tense, this group did not produce as many transitive utterances per session as did the adults and young adults.

These children ranged in age from seven to 13 years of age. While seven may seem young to be a caretaker, in this area, and certainly in these two villages, young girls especially are entrusted with the care of their younger siblings while their parents work. Older children act as caretakers and playmates to their younger siblings, taking care of many of their basic needs and providing them direction and discipline.

As a whole, this group differed in their use of case-marking from the adults and grandparents in the previous sections. In the present tense, there was a significant difference in use of NomCM patterns between older children and grandparents

($\chi 2$=17.294, df=1, p=0.0001) and adults ($\chi 2$=6.791, df=1, p=0.009), but no difference with young adults ($\chi 2$=0.707, df=1, p=0.4). These results suggest that older children are following a similar pattern to that of young adults in the present tense, with an increased use of DIR-DIR patterns versus OBL-DIR.

In contrast, older children's patterns in the past tense show significant differences from those of grandparents, adults, and young adults. As shown in Table 4.1, older children used double OBL more often than the ergative/absolutive form of OBL-DIR, although note that they produced only 27 full transitive utterances in the past. Out of the 15 older children, 11 used a double OBL pattern at least once, and three of those used an OBL-DIR pattern as well. Only one older child used an OBL-DIR pattern without using a double OBL pattern at all. Many of the utterances with a double OBL pattern have pronouns for both arguments. For instance, in Example 14, both agent (first person plural) and patient (demonstrative pronoun those) are in the OBL form. Likewise, in Example 15, both agent and patient are pronouns in the OBL form.

Example 14:
me vana nekire
1p-OBL these-OBL NEG-put-PAST, 3s
'We didn't put these (here)."

Example 15:
te wî ditiye
2s-OBL 3s-OBL see-PAST, 3s
'Did you see it?"

This situation may indicate a higher use of double OBL in younger age groups, especially since young adults and adults showed some use of double OBL but not the grandparents.

4.2.1.5. Case-Marking Patterns for Caretakers

Overall, all caretaker groups had a higher use of split-ergative case-marking patterns in the past tense (ErgCM) than in the present tense (NomCM), expect for the older children where the percentage used was roughly the same. This result seems to contradict reports in previous literature that ErgCM is weakening in the past tense with an overall shift to a nominative/accusative system in both the present and past tenses. Except for the youngest group, caretakers used ErgCM in the past tense more than 80% of the time (more than 90% for grandparents and young adults), while in the present tense, no group used NomCM more than 80%. The use of DIR-DIR patterns in the present tense seems to be the main departure from NomCM patterns in the present tense, which—since neither argument had overt case-marking—there thus may have been a higher reliance on word order to indicate agent-patient roles. In the past tense, the use of OBL-OBL seems to be the main difference between grandparents and young adults, who used ErgCM more than 90% of the time, and adults and older children, who showed a lower percentage of ErgCM use.

4.2.1.5. Word Order

Word order among caretakers was overwhelmingly SOV, with some exceptions. Agents would occasionally be placed at the very end of the sentence (backing) for emphasis of the agent, producing an OVS word order. For instance, in Example 16, an uncle asks a child whether they should send her to school next year, and the child doesn't answer right away, so the uncle repeats the question with the agent at the end. In example 17, another uncle wants to motivate a child to start doing something and places the agent (first person plural) at the end of the utterance.

Example 16

UNCLE:	em	te	saldin	bişîni	meytebe
	1p-DIR	2s-OBL	next year	send-PROG, 3p	to school
	'Should we send you to school next year?				

CHILD:	bike	top
	Make-IMP	ball-DIR?
	'Make a ball.'	

UNCLE:	te	saldin	bişîni	meytebe	em
	2s-OBL	next year	send-PROG, 3p	to school	1p-DIR
	'Should we send you to school next year?				

Example 17

temam	çekin	em.
ok	make-IMP, 1p	1p
'Let's make it.'		

4.2.2. Children

For each of the child age groups in this study, I first ascertained if the child uses case-marking. If case-marking was used, I analyzed what case forms were used and when and if there was change over the course of the year for that child.

4.2.2.1. Age Group 1;6-2;3 (2;0-2;9)

The two girls in this age group, who were first recorded at age 1;6, were in the one to two-word stage for all four recording sessions. Berfin's MLU stayed very close to 1 for every session, and in fact she only produced two transitive utterances altogether, at age 2;3, both in the present tense. The first sentence contained no agent and a male patient that was in the unmarked DIR form and the other contained no agent and a female patient in the marked OBL form shown in Examples 18 and 19. However, there are insufficient data to make any claim about whether or not she has acquired case at all; thus we cannot say that she has shown any use of ergative case.

Example 18
berx derxim
sheep-DIR throw out-PROG, 1s
'I'm going to throw out the sheep.'

Example 19
pişe derxim
cat-OBL throw out-PROG, 1s
'I'm going to throw out the cat.'

In contrast, Edanur's MLU grew over the course of the four sessions, from 1.0 in session one to 2.1 in session four. However, she only produced one transitive sentence in the past tense at age 2;0, with no agent and a feminine noun for patient in DIR form. As shown in Example 20. Once again, there are insufficient data to suggest that case, especially ergative case, has emerged.

Example 20
bebeg girt
baby-DIR held, PAST, 3s
'(He) held the baby.'

The two boys in this group were approximately age 2;0 at the first recording session. Subsequently, their MLUs were higher starting at around 2.0 and growing to around 2.8 by the fourth session. Both boys produced few transitive sentences, although Salem produced more than Yusuf. In the data, Yusuf seemed to produce more, but most were him repeating after the caregiver. In fact, Yusuf in all four sessions only produced one full transitive sentence in the past tense, at age 2;6, with an OBL agentive pronoun and a pronoun in DIR for patient, presented in Example 21.

Example 21

mi	giştik	kire
1s-OBL	everything-DIR	buy-PAST, 3s

'I bought everything.'

In contrast, Salem produced three transitive sentences at 2;0, all in the past tense, with two agentive pronouns in the OBL form (first person plural and first person singular). He also used one feminine noun as an agent that was also in OBL. He produced one transitive sentence at age 2;3, which had the third person plural pronoun as agent with OBL. Finally at age 2;6, he produce two transitive sentences, both with overt agents and patients. Both agents were second person pronouns in the OBL form and both patients were first person pronouns in OBL.

Evidence suggests that Selam has started using ergative case-marking at 2;0. First, he uses a variety of pronouns and nouns at that age, and then continues to use OBL forms with transitive sentences as opposed to DIR form with intransitive subjects. Examples 22, 23, and 24 show Selam used different personal pronouns in OBL form in with three different past-tense verbs.

Example 22

me	anî
1p-OBL	bring-PAST, 3s

'We brought (it).'

Example 23

mi	danî	vika
1s-OBL	put-PAST, 3s	there

'I put (it) there.'

Example 24

te	nediye
2s-OBL	NEG-see-PAST, 3s

'You didn't see (it)?'

In addition, the examples from 2;6, in Example 25, show a direct contrast with the caretaker's preceding sentence. In that sentence, also in the past tense, the agent was the OBL form of the first person singular pronoun *mı* and the patient was the DIR form of the second person singular pronoun *tu*. In response Selam used the OBL form of the second person singular pronoun *te* but used the OBL form of the first person pronoun *mı*. Thus Selam seems to be able to change the case of the pronoun, but does conform to the OBL-DIR split-ergative pattern for past tense transitive sentences.

Example 25

UNCLE:	mi	tu	nebirî		
	1s-OBL	2s-DIR	NEG-take-PAST, 2s		
	'I didn't take you.'				
CHILD:	na	te	mi	bir.	
	no	2s-OBL	1s-OBL	take-PAST, 3s	
	'No, you did take me.'				
UNCLE:	na na	welle	mi	tu	nebirî
	no no	really	1s-OBL	2s-DIR	NEG-take-PAST, 2s
	'No, no, really, I didn't take you.'				
CHILD:	he	te	mi	bir.	
	yes	2s-OBL	1s-OBL	take-PAST, 3s	
	'Yes, you did take me.'				

4.2.2.2. Age Group 2;6-3;3

This child age group was comprised of the participants who were 2;6 years of age at the first recording. The first girl, Dilan, had the highest MLU for the group at 2.4 at the first recording, which remained steady reaching 2.6 by the fourth session. She produced many transitive utterances, 19 altogether over the four sessions. She, in fact, uses split-ergative case-marking quite consistently throughout the four session, with DIR-OBL and

Ø-OBL the most common present tense patterns and OBL-DIR and OBL-Ø for past tense for the first two sessions.

Table 4.3. Dilan's transitive utterances for 4 recording sessions

	Present				**Past**			
	1st	**2nd**	**3rd**	**4th**	**1st**	**2nd**	**3rd**	**4th**
DIR-DIR	0	0	0	0	0	0	0	0
DIR-OBL	0	**1**	**2**	**1**	0	0	0	0
OBL-OBL	0	0	0	0	0	0	**1**	**1**
OBL-DIR	0	0	0	0	0	**1**	0	**1**
DIR-Ø	**1**	0	0	0	0	0	0	0
OBL-Ø	0	0	0	0	**1**	**2**	0	0
Ø-OBL	**4**	0	**1**	**1**	0	0	0	0
Ø-DIR	0	0	**1**	0	0	0	0	0
Total	**5**	**1**	**4**	**2**	**1**	**3**	**1**	**2**

For instance, in Example 26-28, she uses a DIR-OBL pattern at ages 2;6, 2;9 and 3;0, respectively.

Example 26
tu vana bidemi
2s-DIR these-OBL give-PROG, 3s + 1s-DAT
'You are giving these to me.'

Example 27
ew limi dixe
3s-DIR 1s-OBL hit-PROG-3s
'He is hitting me.'

Example 28
Guçik me dige
dog-DIR 1p-OBL bite-PROG, 3s
'The dog is biting us.'

Dilan did not use a double OBL pattern in the past tense until the third and fourth sessions, one example shown in Example 29. Also, in the present tense, there was only one deviation from split-ergative case-marking, use of DIR on a patient that was a noun. In fact, of the three nouns Dilan used in transitive sentences, all were in the unmarked DIR form. Thus from the first session at age 2;6 on, Dilan seemed to be using a split-ergative case productively and, according to rules in the speech community, accurately.

Example 29

mi	wî	da	çeleke
1s-OBL	3s-OBL	give-PAST, 3s	cow-DAT

'I gave it to the cow.'

The second girl, Rojin, had a low MLU from the beginning at just 1.6, and does not produce any transitive sentences until the fourth session where her MLU rises to 2.0. In that session she produces five transitive sentences all in the past tense.

Table 4.4. Rojin's transitive utterances for the 4th recording session

	Present	**Past**
DIR-DIR	0	0
DIR-OBL	0	0
OBL-OBL	0	**2**
OBL-DIR	0	**1**
DIR-Ø	0	0
OBL-Ø	0	**2**
Ø-OBL	0	0
Ø-DIR	0	0
Total	0	**5**

Three of the sentences have traditional split-ergative case-marking, OBL-DIR or OBL-Ø and two have double OBL. Once again, the only argument that received DIR was a noun. Example 30 shows a double OBL pattern once again with pronouns for both agent and patient.

Example 29
te mi xist
2s-OBL 1s-OBL hit-PAST, 3s
'You hit me.'

Table 4.5. Serkan's transitive utterances for 4 recording sessions

	Present				**Past**			
	1st	**2nd**	**3rd**	**4th**	**1st**	**2nd**	**3rd**	**4th**
DIR-DIR	0	0	0	0	0	0	0	0
DIR-OBL	0	0	0	0	0	0	0	0
OBL-OBL	0	0	0	**1**	0	0	0	0
OBL-DIR	0	0	0	0	0	0	**1**	0
DIR-Ø	0	0	0	**1**	0	0	0	0
OBL-Ø	0	0	0	0	0	**2**	0	**2**
Ø-OBL	0	0	**1**	0	0	0	0	0
Ø-DIR	0	0	0	0	0	0	0	0
Total	**0**	**0**	**1**	**2**	**0**	**2**	**1**	**2**

The first boy in this age group, Serkan, also started with a low MLU for the first session and did not produce and transitive sentences. However, he did produce two past-tense transitive sentences in the second session, both OBL-Ø and a number of past and present tense transitive sentences in the third and fourth sessions. In the present tense, of the three utterances, two of them show a split-ergative pattern, one sentence having an

agent in the DIR form and the other a patient in the OBL. However, one utterance has an OBL-OBL pattern, Example 30, surprising for the present tense.

Example 30

wey	te	per	meryon	digre
wow	2s-OBL	very	people-OBL	hold on-PRES, 3s

'Wow, you hold on to people too much.'

For the past tense, Serkan's utterances show a split-ergative pattern, with four token of OBL-Ø and one with OBL-DIR. Thus it seems that Serkan used split-ergative case-marking productively at age 3;0.

Finally, Resul, the second boy in this age group, started with a slightly higher MLU of 1.9 at age 2;6, but produced only 2 transitive sentences over the four recording sessions. They were both past tense and had an OBL-Ø pattern. Although this pattern does have split-ergative case-marking, it is difficult to suggest that Resul is using split-ergative case-marking at this point.

As for word order for this age group overall, there were no deviations from the expected SOV word. Because of the low MLUs of this group in general, most transitive utterances were two or three-word utterances; all were verb-final, and if two arguments did appear, the agent preceded the patient.

4.2.2.3. Age Group 3;6-4;3

The oldest child age group was comprised of the participants who were 3;6 years of age at the first recording. The two girls and two boys in this age group showed the most use of transitive clauses, as would be expected. Also present is a wide variety in case-marking of agents and patients.

The results from this group will be presented for each of the four children individually. For each child, results will detail the number of transitive clauses uttered for

each recording session in both the present and past tenses followed by a description of the shape of these utterances, i.e., the word order and case-marking pattern. Finally, each child's development in terms of word order and case-marking over the course of the year will be discussed.

The first girl, Aslı, was one of the most talkative participants in the whole study and had a relatively high MLU for her age; at age 3;6, her MLU was 4.6 (see Table 4.1). She produced the most transitive utterances of any child, with 76 present tense and 55 past tense transitive utterances. Table 4.6 shows the number of transitive clauses Aslı produced in each of the recording sessions with details about the shape of these utterances. For example, of the 33 present-tense transitive sentences produced in the first recording sessions, 17 had omitted agents (52% of total sentences) and 2 had omitted patients.

Table 4.6. Aslı's transitive utterances for 4 recording sessions

	Present				**Past**			
	1st	**2nd**	**3rd**	**4th**	**1st**	**2nd**	**3rd**	**4th**
DIR-DIR	**12**	**0**	**2**	**5**	0	0	0	0
DIR-OBL	**2**	**3**	**4**	**1**	0	0	0	0
OBL-OBL	0	0	0	0	**3**	**9**	**5**	**10**
OBL-DIR	0	0	0	0	**0**	**2**	**1**	**5**
DIR-Ø	**2**	**3**	**4**	**2**	0	0	0	0
OBL-Ø	0	0	0	0	**3**	**6**	**7**	**4**
Ø-OBL	**10**	**1**	**8**	**4**	0	0	0	0
Ø-DIR	**7**	**1**	**2**	**3**	0	0	0	0
Total	**33**	**8**	**20**	**15**	**6**	**17**	**13**	**19**

For all four sessions, overt agents were always in the DIR form in the present tense. However, patients, which should be in the OBL form according to canonical split-

ergative rules, had both DIR and OBL case-marking. The most common pattern in the first session for case-marking was DIR-DIR (12 tokens, 36% of total sentences) followed closely by Ø-OBL; however, in the other sessions, DIR-DIR was rarely observed and DIR-OBL, DIR-Ø, and Ø-OBL were more dominant. The high number of DIR-DIR utterances in the first session could be accounted for by the high number of nominal patients; 100% of patients in DIR form in the first session were nouns such as *paste* 'cake', *simit* 'pretzel', *lazut* 'popcorn' and *qelem* 'pen'. Examples 31 and 32 show examples of such sentences. In the present tense, overall use of DIR on agents and equal use of DIR and OBL forms patients was favored.

Example 31

tu	paste	çeke
2s-DIR	cake-DIR	make-IMP

'Make as cake.'

Example 32

lazut	çedikim
popcorn	make-PRES, 1s

'I'm making popcorn.'

For the past tense, the most common pattern was OBL-OBL (double OBL) as in Examples 33 and 34. Both OBL-Ø and OBL-DIR (the ergative-form) were also common, shown in Examples 35 and 36. Notably, 100% of overt agents were in the OBL form, with DIR limited to the patient position when used at all (just 8 tokens across the 4 sessions). Thus, in the past tense, use of OBL for both agents and patients was highly favored, which contrasts with the tendency to use DIR in the present tense.

Example 33

te	vane	çekir	jimira
2s-OBL	these-OBL	make-PAST, 3s	for me-DAT

'You made these for me.'

Example 34
mi wî çekir
1s-OBL 3s-OBL make-PAST, 3s
'I made it.'

Example 35
mi çekir
1s-OBL make-PST, 3s
'I made (it).'

Example 36
migo Elif te çima hurkir ereba ape Fuat
I said Elif 2s-OBL why break-PAST, 3s car-DIR Uncle Fuat
'Uncle Fuat, I said, Elf, why did you break the car?'

For individual sentences, it is important to note that Aslı produced mainly pronouns in the past tense, including all agents and most patients. In fact the few patients that received DIR in the past were nouns. In addition, in the present tense, the high number of patients that had DIR, especially the remarkable 12 sentences that had a DIR-DIR pattern, were all nouns. This finding suggests that Aslı is favoring the use of OBL with pronouns in the past tense and DIR with nouns overall. These findings are fairly consistent with results from the adults members of the community presented in section 4.2.1, with the difference of more regular use of double OBL in the past tense.

Word order patterns remained consistent for all of Aslı's transitive utterances – the preferred SOV word order was maintained across the board with little variation. Also in terms of developmental patterns from the first session through the fourth, there was little variation in the case-marking of agents and patients. Many of the same sentences were uttered in different sessions, and there seemed to be no change how case was used. Considering her use of similar case-marking patterns with the adult community, Aslı at this stage appears to have acquired split-ergative case as used in the adult community.

The second girl, Sonayi, had a lower MLU than Aslı and did not produce as many transitive sentences. The number and type of the ones she did produce are listed in Table 4.7.

Table 4.7. Sonayi's transitive utterances for 4 recording sessions

	Present				**Past**			
	1st	**2nd**	**3rd**	**4th**	**1st**	**2nd**	**3rd**	**4th**
DIR-DIR	**1**	0	0	0	0	0	0	0
DIR-OBL	**3**	**4**	**1**	**2**	0	0	0	0
OBL-OBL	0	0	0	0	**3**	**4**	**4**	**5**
OBL-DIR	0	0	0	0	0	0	**1**	**3**
DIR-Ø	0	**2**	0	**3**	0	0	0	0
OBL-Ø	0	0	0	0	**2**	0	**3**	**2**
Ø-OBL	**1**	**1**	**3**	**3**	**1**	0	**1**	0
Ø-DIR	0	0	0	0	0	0	0	0
Total	**5**	**7**	**4**	**8**	**6**	**4**	**9**	**10**

Like Aslı for all four sessions, Sonayi always used overt agents with DIR in the present tense. However, unlike Aslı, Sonayi always used OBL with patients. The most common overall pattern was DIR-OBL; this pattern may have been even more common, but the agent or patient was often dropped making a DIR-Ø or Ø-OBL commonly used. Thus in the present tense, use of DIR for both agents and OBL for patients was favored.

For the past tense, the most common pattern was OBL-OBL (double OBL). Both OBL-Ø and OBL-DIR (the ergative-form) were also common. Again, 100% of overt agents were in the OBL form with DIR rarely used except as patients when the OBL agent was overtly marked. Thus, in the past tense, use of OBL for both agents and patients was highly favored

Similar to Aslı's results, in Sonayi's data, agents and patients in both tenses tended to be pronouns. The few nouns were used were in the DIR form. Thus, Sonayi also favored the use of OBL with pronouns in the past tense and DIR with nouns. Finally, Sonayi's word order patterns maintained an SOV word order.

Sonayi also differed little in use from one session to another; rather no major developmental steps occurred between 3;6 and 4;3 years of age, at least in terms of case-marking. However, Sonayi produced many fewer sentences than Aslı, so it is harder to gain a clear picture of Sonayi's case-marking usage.

The first boy in this group, Ömer, was rather reticent during the recording sessions, with an MLU of only 2.9 at age 3;6, which is lower that the other three participants in the same age group. Table 4.8 shows the number of transitive clauses Ömer produced in each of the recording sessions with details about the shape of these utterances. He produced 15 transitive present tense sentences and 7 past tense transitive sentences.

Table 4.8. Ömer's transitive utterances for 4 recording sessions

	Present				**Past**			
	1st	**2nd**	**3rd**	**4th**	**1st**	**2nd**	**3rd**	**4th**
DIR-DIR	0	0	0	0	0	0	0	0
DIR-OBL	0	**1**	0	0	0	0	0	0
OBL-OBL	0	0	0	0	**2**	**1**	0	**1**
OBL-DIR	0	0	0	0	0	0	0	0
DIR-Ø	0	**3**	0	**2**	0	0	0	0
OBL-Ø	0	**1**	0	0	0	**2**	0	**1**
Ø-OBL	**1**	**1**	**5**	**1**	0	0	0	0
Ø-DIR	0	0	0	0	0	0	0	0
Total	**1**	**6**	**5**	**3**	**2**	**3**	**0**	**2**

Of the present tense sentences, all overt patients were in the OBL form, while all except one overt agent was in the DIR (Example 37). The most common patterns overall included Ø-OBL and DIR-Ø. Thus in the present tense, use of DIR was favored for agents and OBL for patients.

Example 37
te lidixe
2s-OBL hit-PROG, 3s
'You are hitting (him).'

For the past tense, of the seven utterances, four had OBL-OBL case-marking (e.g., Example 38) and three had OBL-Ø (e.g., Example 39). Therefore, Ömer never used DIR in the few past tense sentences he produced. However, once again, all agents and patients in Ömer's past tense production were pronouns, reflecting patterns in both the adult data and other child data that past-tense pronouns have OBL.

Example 38
me wana nekilye
1p-OBL these-OBL NEG-put-PAST, 3s
'We didn't put these.'

Example 39
mi vekir
1s-OBL open-PAST, 3s
'I opened (this).'

Example 40
gi vana xilas bikin em
everything these-OBL finish-PROG, 1p 1p-DIR
'Let's finish all of these.'

Word order patterns varied slightly from SOV for Ömer. In one past-tense sentence he placed the agent at the end of the sentence for no apparent pragmatic reason (Example 40). However, the rest of his utterances retain the SOV word order. Finally, there was no discernable developmental difference between the first and last sessions.

The second boy, Davud, also had a fairly low MLU, mostly likely because he was not very talkative and did not produce many utterances of any kind. In the first session, he used only one transitive sentence with an OBL first person singular pronoun and a DIR masculine noun and in the second session he produced none. In the third and fourth session he produce two transitive sentences in each, one in the present tense with a DIR-Ø pattern (Example 41) and the other in the past tense, all with OBL agentive pronouns, two with OBL patient pronouns (see Example 42), and one with a dropped patient (Example 43). As is the case for the other children in this age group, word order is consistently SOV for transitive sentences. Finally, although the few transitive sentences seem to conform to the patterns used by Aslı and Sonayi, little can be understood about the development of case in Davud's production given that he produced so few utterances.

Example 41
tu bixe
2s-DIR eat-IMP
'You eat (it).

Example 42
te vana çekir
2s-OBL these-OBL make-PAST, 3s
'You made these.'

Example 43
mi xar
1s-OBL eat-PST, 3s
'I ate (it).'

In terms of overall patterns found in the child data, one interesting observation is to compare use of OBL-OBL (double OBL) and the canonical OBL-DIR ergative marking across age groups and MLU to discern any patterns in growth. Only the two older girls produced enough contrasting sentences to track this kind of data, presented in Figures 4.2 (by age) and 4.3 (by MLU).

Although there are not enough tokens to test statistically, the raw numbers show that they used double OBL 100% of the time at age 3;6, but then the percentage decreases at every age while the percentage use of OBL-DIR increases. If compared using MLU, however, there seems to be no pattern of use except that OBL-OBL is more common at every MLU than OBL-DIR.

Figure 4.2. Aslı's and Sonayi's Use of OBL-OBL vs. OBL-DIR by Age

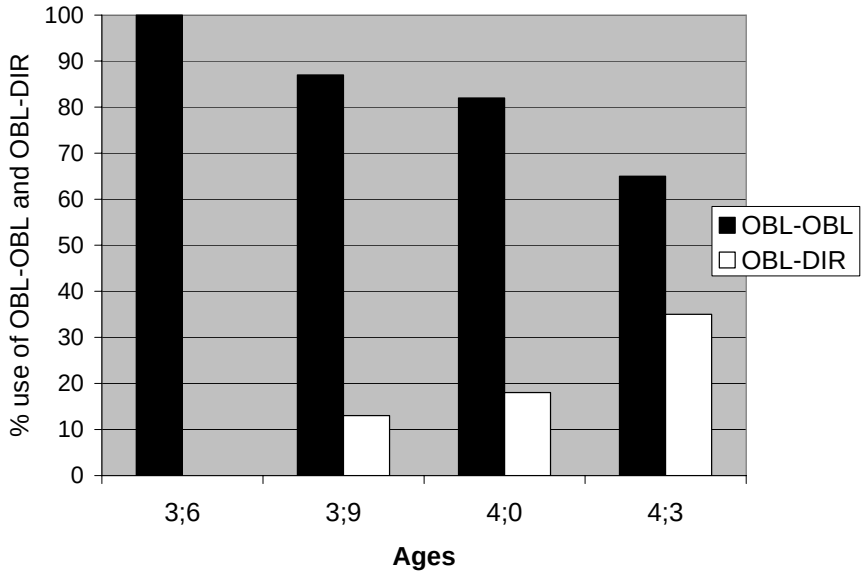
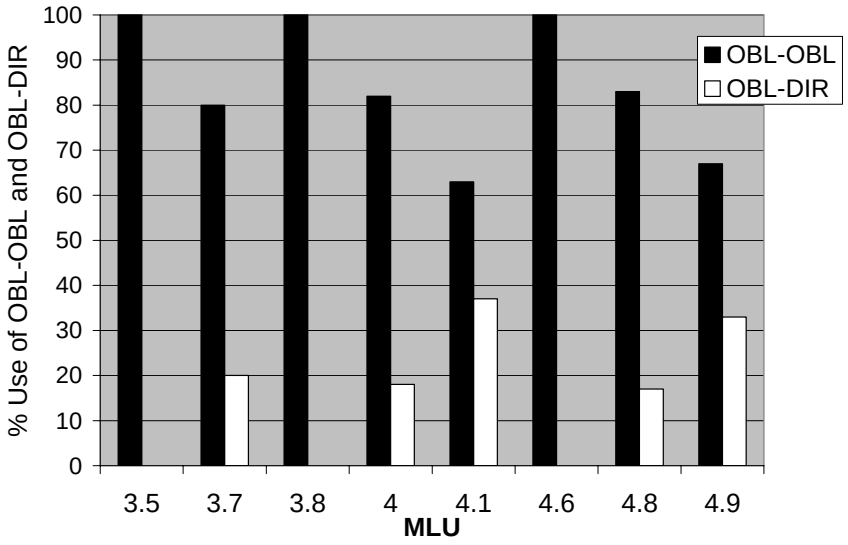


Figure 4.3. Aslı's and Sonayi's Use of OBL-OBL vs. OBL-DIR by MLU



4.3. DISCUSSION OF RESULTS

The data from the spontaneous speech samples from adults suggest that, due to language change in progress, children acquiring the split-ergative case-marking system of Kurmanji receive inconsistent input from variable grammatical forms in use in the adult community. Speech samples from caretakers, including older and younger adults and older children and adolescents, show a variable use of case-marking that does not seem to be constrained by linguistic or extralinguistic factors.

Overall, data from caretakers show that NomCM was the preferred pattern in the present tense, although both agent and patient arguments were often omitted. However, especially among younger groups, a DIR-DIR pattern was an emerging pattern. In the past tense, most groups used ErgCM more consistently, except for the older children; older participants favored an OBL-DIR pattern, with some variation, while the youngest group trended more towards an OBL-OBL pattern. However, there was variable use in the past tense as well by all participants.

In addition, the pattern seems to be undergoing a change, which was suggested in previous literature (Dorleijn 1996, Haig 1998, Matras 2002). However, results seem to contradict reports in previous literature that the overall system is shifting to nominative/accusative in both tenses. All caretaker groups had a higher use of split-ergative case-marking patterns in the past tense (ErgCM) than in the present tense (NomCM), expect for the older children where the percentage use was roughly the same.

Although the data are insufficient to make any firm claims, results may indicate a higher use of double OBL and OBL with patients in younger age groups, especially since a very few tokens of double OBL appeared in the young adult and adult data but not at all in the older adult group (grandparents) data. However, pronouns seem to show a tendency to have the OBL versus DIR form in the past tense, so this phenomenon may have an effect on the results. Also in the present tense, younger groups show lesser tendencies to use DIR-OBL in all instances, although DIR is still the preferred form for agents. Once again, however, this may be due to nouns gradually losing OBL case-marking. Ultimately, this change may cause an even more variable and inconsistent use of case-marking for children to acquire.

In terms of developmental patterns from the child data, the age of first use for the youngest age group seems to be 2;0; this is the youngest age at which there is evidence of use of split-ergative case-marking. However, age of repeated use appears to start around 2;6, the age at which participants showed real evidence of productive use. In terms of errors, errors of omission are hard to establish since in Kurmanji, both agent and patient can be dropped if context is enough to be clear. Thus the many instances where either agent or patient was dropped cannot be considered errors of omission. As, in terms of errors of commission, since the pattern is so inconsistent and variable in utterances produced by adults, using DIR on a patient in the present tense or using OBL on a patient

in the past tense also may not be considered errors. Children did not make many errors in the DIR and OBL forms of nouns and pronouns, only one which could be considered an authentic error, having to do with pronunciation. For instance, in one utterance, a child uses the term *simitî* 'pretzel' whereas the OBL form should be *simitê*. However, since the pronoun forms are suppletive and most nouns were in the unmarked DIR form, children had little opportunity to use incorrect inflectional suffixes.

Most children, even in their first transitive utterances, tended to use patterns demonstrated by the adult community, although among the second child age group, there may be evidence to suggest that double OBL case-marking emerges later. The use of double OBL is an interesting point considering older adults did not show evidence of using this pattern and the older children and adolescents used it more than other adults. Does this tendency have any effect on how children are acquiring case-marking in past tense sentences? It seems that children tended to use double OBL quite often, thus suggesting they are conforming to patterns found in usage by younger adults overall and older children.

Finally, in terms of word order, for the adults, most utterances had SOV word order, which is the unmarked order for Kurmanji. There were a few instances where there was backing of the agent for emphasis when an utterance was repeated, but overall, there were few deviations from SOV word order. The children also produced SOV word order from the very first two-word utterances and also showed very little deviation from this pattern. In fact, since DIR-DIR (in the present tense) and OBL-OBL (in the past tense) seem to be an emerging trend for transitive sentences, the only way to mark agent-patient grammatical relations is word order. Thus, for word order, the adult community showed few departures from SOV and the children acquire this pattern early and use it consistently.

Chapter 5: Elicited Production Task

This chapter presents the methodology and results of the elicited production task. First the task and its methodology are presented followed by the results for case-marking and word order patterns.

5.1. EXPERIMENTAL TASK

Due to the limited amount of previous research on Kurmanji in general or on the specific variety spoken in the study area, some basic elements of the language had to be established in order to understand the developmental patterns displayed by the children in the study. Some of these basic elements include case-marking and word order patterns. An elicited production task was used to obtain data in a controlled environment specifically designed to elicit verbs with an agent and patient.

As previously discussed in section 2.2, the use of split-ergativity in Kurmanji is under debate; however, Dorleijn's (1996) study had no participants from the most northern regions of the Kurdish areas in Turkey. Because of the apparent weakening of the split-ergative construction in the language, the lack of concrete data specifically on how split-ergativity is changing, and the lack of previous research from speakers from the specific geographic area where the data for this study were collected, this task was designed to elicit data from both adult and child participants in order to understand the case-marking patterns in the adult community and to assess how children's performance compares to those patterns.

To identify patterns in the data, analyses were performed on possible age effects, as well as possible effects of grammatical relation and word type on case-marking. Age differences within the overall child group are of course important in determining development patterns in case-marking. However, it is also important to consider age

effects within the adult group since a general shift in case-marking patterns may be occurring which could affect older and younger adults' use of case differently.

Differences in use between adults of different ages may have an interesting effect on acquisition due to the nature of the input that children receive. As previously mentioned in section 3.2., because of the composition of the household, children in the community often receive more input from grandparents, older siblings, and young aunts or uncles than from their parents. Many acquisition studies have focused on input from parents, especially mothers, which assumes input comes primarily from people of a certain age range. In this situation, children may actually receive more input from people older than their parents, or from older children (at least 7 years of age) and adolescents. Thus examining the differences in forms used by older adults, older children, and adolescents is important.

As for grammatical relations (agents and patients) and word type (nouns vs. pronouns), possible differences may occur depending on a word's role in the sentence. Effects of word type are considered here for two reasons. First, there may be a difference in case-marking and acquisition between nouns and pronouns, nouns being an open lexical class and pronouns being a closed class. As previously mentioned in the review of the literature on the acquisition of ergativity, children may more accurately produce case-endings on open class lexical items, i.e., on nouns versus pronouns (Pye 1990). Second, the previous literature on Kurmanji (Haig 1998, Matras 1992-1993, Matras 2002) has suggested a general loss of oblique case-marking on nouns, but not pronouns, which would have an effect on overall case-marking patterns, perhaps leading to the weakening of the split-ergative pattern in Kurmanji.

Finally, word order in both the adult and child data was analyzed to determine overall patterns of use in the adult community by comparison to the children's. As

presented in the grammatical sketch in Chapter 2, Kurmanji has strict SOV word order of its core constituents, and if the case-marking system is undergoing a shift or leveling, word order may play an important part in determining agent-patient roles.

5.2. METHODOLOGY

In order to directly elicit split-ergative case-marking of agents and patients from participants, an elicited production task was used. A variant of the Agent-Patient Test (Slobin 1982), which can be used to assess a child's comprehension of typical subject-object-verb sentences of a language, was devised and conducted. This task was largely designed in the field after the researcher collected and analyzed some of the spontaneous speech samples from the community and conducted some inquiry into the state of Kurmanji in the area.

5.2.1. Data Collection

Participants in the task included 9 of the children from the spontaneous data collection as well as 2 older children. At the time of the test, their ages ranged from 2;3 to 5;5. In addition, 11 adolescent and adult members of the community who were members of the children's families were tested. Tables 5.1 and 5.2 show each participant with his/her sex and approximate age.

For this task I used a range of video sequences and toy animals/dolls that presented events that were designed to elicit sentences with verbs that require both agent and patient roles. Thirty videotaped scenes with people or animals from the village were taped in an effort to make the task as engaging for the children as possible. In addition, 10 untaped sequences with toy animals/dolls were prepared and presented by the researcher and assistant live to the participant to ensure a range of input possibilities, such that if children did not respond well to videotaped scenes, they might respond better

to the live presentation. In particular, these untaped sequences were used to elicit first and second person pronouns, which would have been difficult to elicit by video without the participant him/herself participating in the task. It was important to elicit these pronouns since, as previously mentioned in section 2.2, pronouns may more regularly carry oblique case-marking. Participants were able to respond to both types of stimuli equally well after warm-up filler sentences were elicited.

Table 5.1. Child Participants in the Elicitation Task

	Participant	**Sex**	**Age**
1	Selam	M	2;3
2	Yusuf	M	2;6
3	Rojin	F	3;3
4	Serkan	M	3;2
5	Resul	M	3;3
6	Aslı	F	4;3
7	Ömer	M	4;3
8	Davud	M	4;3
9	Sanayi	F	4;3
10	Kader	F	5;5
11	Cumali	M	5;5

Table 5.2. Adolescent and Adult Participants in the Elicitation Task.

	Participant	**Sex**	**Age**
1	Sezer	M	11
2	Ayşe	F	12
3	Pınar	F	13
4	Şabettin	M	15
5	Çidem	F	~20
6	Zebide	F	~28
7	Naime	F	~28
8	Tuncay	M	~31
9	Yuksel	F	~32
10	Nizamettin	M	~38
11	Sefer	M	~57

There were 80 stimuli altogether consisting of 12 intransitive sentences and 28 transitive sentences, each of which was elicited first in the present tense and then in the

past tense. The intransitive sentences were used to assess the form that intransitive subjects took. There was a total of 6 intransitive target verbs used in the task (*fall*, *walk*, *run*, *sleep*, *sit*, *laugh*) and 11 transitive target verbs (*pat*, *eat*, *chase*, *smell*, *push*, *pinch*, *lick*, *hit*, *pick up*, *kiss*, *bite*). These verbs were chosen based on verbs suggested by Slobin (1982) for the Agent-Patient Test. All fit the criteria for verbs in Kurdish that are overtly manipulative, as previous studies have shown that the ergative inflection may first appear only on the subject (agent) of verbs such as *give*, *grab*, *take*, and *hit* and may be omitted with verbs such as *say*, *call out*, and *see*. The events that received earlier ergative case-marking by children learning Kaluli were overtly manipulative (Schieffelin 1985; Pye 1990, 1992).

Subjects included various grammatically feminine (*calf*, *girl*, *woman*, *baby*, *goat*, *cat*) and masculine (*man*, *boy*, *horse*) nouns and pronouns. All personal pronouns were represented at least once in the direct and oblique cases. Some target sentence pairs used the same verbs with the same nouns, simply switching the agent and patient. Agents and patients were broken down into two groups: nouns and pronouns. There were 6 feminine nouns for 23 total tokens, 9 in agent position and 14 in patient position. Finally, there were 25 pronoun tokens, with each pronoun tested at least once in agent and patient positions. Table 5.3 shows the nouns and pronouns used and the frequency of occurrence as targets. A list of the target transitive sentences and their English translations is presented in Appendices B (present tense) and C (past tense). In that list, sentences 1-20 were elicited through video sequences and sentences 21-28 were elicited through live presentations with toys.

In the task, the child was asked to describe what was happening in these events. Pre-training for the tasks was conducted to ascertain the child's ability to name the characters (people, animals/dolls) and actions that were used. There were three warm-up

sentences: one intransitive and two transitive. The video sequences were presented first followed by the enactments using toys/animals. In order to elicit the present tense, questions such as "What is going on?" and "What is the boy doing?" were asked; in order to elicit the past tense, questions such as "What happened?" or "What did he do?" were asked.

Table 5.3. Target Nouns and Pronouns in Transitive Sentences

	Agent	**Patient**	**Total**
Nouns	**15**	**15**	**30**
merik (man, masc.)	1	0	1
lawik (boy, masc.)	4	1	5
hesp (horse, masc.)	1	0	1
golik (calf, fem.)	1	2	3
jinik (woman, fem.)	2	1	3
qizik (girl, fem.)	4	6	10
bebeg (baby, fem.)	2	3	5
bizin (goat, fem.)	0	1	1
pisik (cat, fem.)	0	1	1
Pronouns	**13**	**12**	**25**
1s (ez, mîn)	2	2	4
2s (tu, te)	4	2	6
3s (ew, wî)	1	3	4
1p (em, me)	2	1	3
2p (wûn, we)	2	1	3
3p (ew, wan)	2	3	5

5.2.2. Data Analysis

The data from the elicited production task were analyzed using a mixed design of between group tests to assess the effects of speaker age and repeated measure tests to analyze the effects of word types and grammatical relations on the use of split-ergative case-marking. In this analysis, speaker age has four levels: children, younger and older, and adults, younger and older. Next, the effect of grammatical relation examines whether

there is a difference in case-marking of words in agent versus patient positions. Finally, an analysis of word type examines whether there is a difference between case-marking of nouns or pronouns.

Statistical analyses were performed using the PROC GENMOD procedure in the SAS program version 9.1.3 (SAS Institute, Inc., 2002-2003). PROC GENMOD is a procedure for fitting generalized linear models. Since the task was elicited production, there were many sentences where adults and children alike did not respond or answered with a different sentence from what was expected as the target. There was no particular sentence that was inconsistently answered, so no sentence was disregarded. Thus the resulting data were naturalistic in nature, were not uniform (not normally distributed), and did not conform to usual data structures used in most parametric statistics tests, i.e., general linear models (GLM). GENMOD is a nonparametric alternative which does not rely on an assumption of normality; it was used in order to optimize the statistical analysis of unbalanced, naturalistic data from a small sample size with many gaps. GENMOD can be considered the non-parametric equivalent to GLM, and produces similar outputs, such as frequency data, significance tests, and interaction effects; GENMOD generates chi-square tests for significance.

The data from the task were coded in terms of canonical case-marking of agents and patients in the present and past tenses. Canonical case-marking is whether or not participants used NomCM (nominative case-marking) patterns in the present tense and ErgCM (ergative case-marking) patterns in the past tense.[16] In the case of Kurmanji, ErgCM patterns would have an OBL-DIR pattern of case-marking, in which the agent has

[16] Full split-ergative case-marking in Kurmanji would also include verb agreement with the agent in the present tense and the patient in the past tense. However, since previous literature (Matras 1992-1993) suggests a tendency for many words to default to an unmarked or 3S verb ending, which was by and large the case in this study, verb agreement for the moment has been disregarded because it would be difficult to assess if the participant was indeed using an ergative pattern of verb agreement.

OBL (the oblique case, the form of the noun that is morphologically marked) and the patient has DIR (the direct case, or the unmarked bare form of the noun). NomCM patterns have a DIR-OBL pattern, in which the agent has DIR and the patient has OBL.

First, an analysis of full ErgCM and NomCM patterns was conducted. For full ErgCM and NomCM, canonical performance entailed appropriate case-marking of both agent and patient in the same sentence. Thus, for full ErgCM, the agent had to have OBL case-marking and the patient had to have DIR case-marking in the same sentence to be counted as canonical. There was a maximum number of 28 possible items for full ErgCM and 28 possible items for full NomCM.

For analyses of the effect of grammatical relation and word type on case-marking, a second kind of analysis was conducted involving partial ErgCM or NomCM patterns. For partial ErgCM and NomCM, all sentences (whether or not they had full ErgCM or NomCM) were reanalyzed looking at the case-marking of individual agents and patients independent of the other arguments in the sentence, such that the case-marking on those other arguments in the same sentence was not considered. For instance, for partial ErgCM, an agent would be marked canonical if it received OBL regardless of the form of the patient in the same sentence. Similarly, a patient was marked canonical if it received DIR regardless of the form of the agent in the same sentence. Thus, there was a maximum number of 56 possible items for partial ErgCM and 56 possible items for partial NomCM.

In order to assess the effect of speaker age on the use of ErgCM, there were three separate between-group tests: adults vs. children, older children vs. younger children, and older adults vs. younger adults. The younger children consisted of five participants (numbers 1-5 on Table 5.1) ranging in age from 2;3 to 3;3 (mean age 2;9) and the older children consisted of six participants (numbers 6-11 on Table 5.1) ranging in age from

4;3 to 5;5 (mean age 4;8). The younger adults consisted of five participants ranging in age from 11 to 20 (numbers 1-5 on Table 5.2, mean age 14), and the older adults consisted of six participants ranging in age from 28 to 57 (numbers 6-11 on Table 5.2, mean age 36).

For the analysis of the effect of grammatical relation and word type, repeated measures tests were performed first for adults and then separately for children and for adult and child age groups. For the effect of grammatical relation, the percentages of ErgCM and NomCM use on agents and patients were compared to determine statistically significant differences in their patterns of use. For word type, the percentages of ErgCM and NomCM on nouns and pronouns were also compared.

Analyses were also performed to assess the effect of individual nouns, pronouns, and verbs on case-marking. Percentages of ErgCM and NomCM on individual nouns and pronouns and verbs were compared for any statistically significant differences. An analysis of individual lexical items is important for a number of reasons. First, previous literature has suggested that OBL is disappearing from masculine nouns faster than feminine nouns, suggesting that certain nouns may have a tendency to be in the OBL or DIR forms regardless of their grammatical positions. Anecdotal evidence also exists that certain pronouns retain OBL and others only retain DIR. Also, in terms of animacy, certain nominals may be so-called more "natural" agents or patients and therefore have a tendency to be unmarked (i.e., have DIR form) versus nominals that do not fit the roles as well, in which case, they would tend to be marked (i.e., have OBL form).

As for different verbs, certain items may trigger different case-marking by adults and earlier case-marking by children, perhaps affecting case-marking at different stages of development. As Hopper and Thompson (1980) have shown, transitivity can be a matter of degree, even among verbs within the same language. If the split-ergative system

in Kurmanji is undergoing change, then the degree of transitivity of different verbs may affect the use of case-marking.

In addition, data obtained from the two different types of stimuli (video-taped sequences and un-taped live presentations) were first analyzed separately in order to determine if there were different results for the two types. However, since no significant differenced appeared, the data was once again combined for overall analysis.

Finally, word order patterns are also an important element in agent-patient relationships in many languages. Kurmanji has strict SOV word order for its core constituents, although focus and topicalization are possible. An analysis of any statistically significant word order errors in the adult data is important to determine general usage patterns for this community. Once general word order usage is established, an analysis of child errors and developmental patterns by children is possible.

5.3. RESULTS

Results are presented in six sections. First I report trends in full ErgCM in the past tense versus full NomCM in the present tense. Then, I present overall results for grammatical relation and word type, followed by the interaction between age, grammatical relation, and word type in three sections. In the fourth section, I report an analysis of individual nouns and verbs. Finally, I present results for word order patterns. In each section, overall results for adult participants and child participants will be presented first, and then more specific results for adults and children by age group will be examined and compared.

For analyses, mean percentage of case-marking use is presented along with their lower and upper confidence intervals (CI) and the p-value (Pr > ChiSq) for the chi-square statistic. Confidence intervals indicate how much confidence can be placed on the mean percentages to predict an outcome based on a calculation of errors (standard error

estimate). In other words, for each mean percentage, we are 95% certain that the sample means would fall between the lower and upper confidence intervals. The p-value for the chi-square statistic with a value below 0.05 indicates a significant effect of the associated model parameter at a 5 percent significance level.

5.3.1. Ergative/Absolutive versus Nominative/Accusative

Figure 5.1 and Table 5.4 present results from adult and child participants on percentage of use of full ErgCM and NomCM. Full ErgCM refers to the use of ErgCM on both agent (with OBL) and patient (with DIR) within the same sentence in the past tense. Full NomCM refers to using DIR on agents and OBL on patients within the same sentence in the present tense.

The adult participants produced full ErgCM only 22% of the time. In contrast, NomCM was produced 76% of the time. Thus, in this study, adult participants used nominative/accusative patterns in the present tense more often than ergative/absolutive patterns in the past tense. However, there is still some variation in case-marking in the present tense, with 24% of utterances not showing a typical NomCM pattern.

When child participants as a whole are compared to adult participants, the data suggest that there is no statistically significant difference in ErgCM or NomCM between children and adults. In the past tense, children used ErgCM case-marking 18% of the time, which is somewhat lower than the finding for adults. However, this difference between adult and child ErgCM marking is not statistically significant (χ^2 test, $\underline{p}$=0.576), as is shown in Table 5.4.

Figure 5.1. Full Split-Ergative Case-Marking by Adults and Children

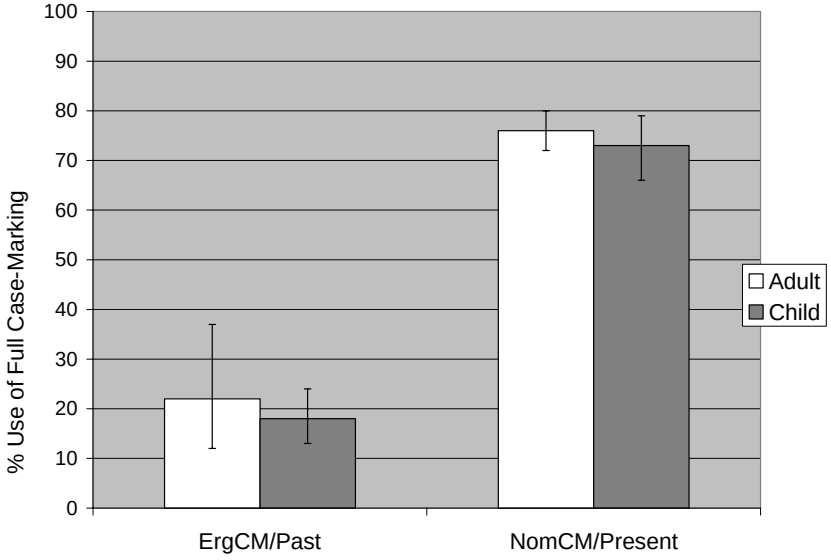


Table 5.4. Percentage of Full Split-Ergative Case-Marking

Tense	Adult			Child			Pr > ChiSq
	Percent	Lower CI	Upper CI	Percent	Lower CI	Upper CI	
Past (ErgCM)	**22%**	12%	37%	**18%**	13%	24%	0.576
Present (NomCM)	**76%**	72%	80%	**73%**	66%	79%	0.415

The same is true of the use of NomCM in the present tense; children used NomCM 73% of the time while, as mentioned previously, adults used NomCM 76% of the time. This difference also is not statistically significant (χ^2 test, p=0.415), as is shown in Table 5.4. Thus, when full ErgCM and NomCM patterns are considered, children generally show the same pattern of case-marking as adults.

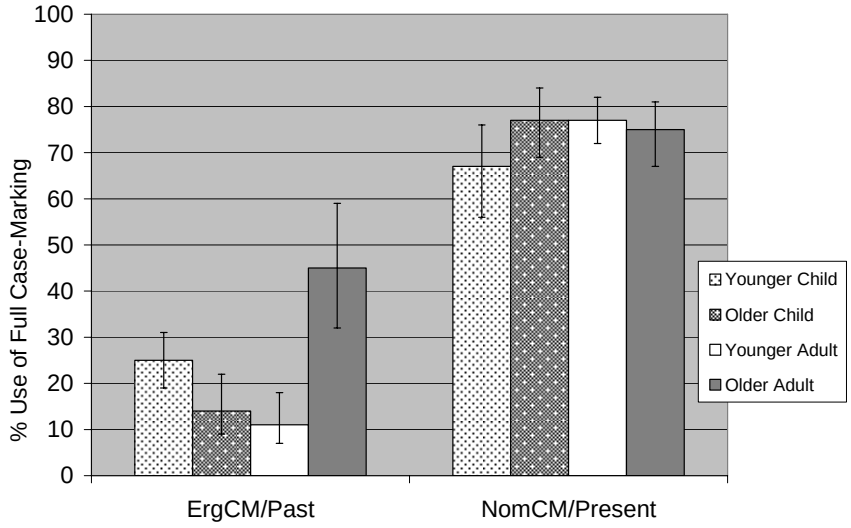
When considering full ErgCM by adult age group, the data show that older adults used full ErgCM on target sentences 45% of the time while younger adults used ErgCM only 11% of the time (see Figure 5.2). This difference approaches statistical significance

(χ^2 test, $\underline{p}$ = 0.052), as is shown in Table 5.5. Similarly, for the children, the data show a slight difference in full ErgCM between older and younger children. In this case, younger children used full ErgCM in target sentences more often compared to older children. However, this finding is not statistically significant (χ^2 test, $\underline{p}$=0.083), as is shown in Table 5.5. Overall, older adults used full ErgCM most often, followed by younger children, older children, and younger adults.

Table 5.5. Percentage of Full Split-Ergative Case-Marking by Age Group

Tense	Group	Younger			Older			Pr > ChiSq
		Percent	Lower CI	Upper CI	Percent	Lower CI	Upper CI	
Past (ErgCM)	Adult	**11%**	7%	18%	**45%**	32%	59%	0.0518
	Child	**25%**	19%	31%	**14%**	9%	22%	0.0834
Present (NomCM)	Adult	**77%**	72%	82%	**75%**	67%	81%	0.5560
	Child	**67%**	56%	76%	**77%**	69%	84%	0.1252

Figure 5.2. Full Split-Ergative Case-Marking by Age Group



Compared to ErgCM, there was even less difference in the use of full NomCM by age group. Older adults used full NomCM on target sentences in the present tense at almost the same percentage as younger adults; this finding shows no significant difference in case-marking patterns between older and younger adults (χ^2 test, p=0.556), as is shown in Table 5.5. As for the children, there was a slightly bigger difference in use between older and younger children; older children used full NomCM on 77% of target sentences in the present tense compared to 67% for younger children. However, this finding shows no significant difference in case-marking patterns between older and younger children (χ^2 test, p=0.125).

Table 5.6. Comparison of Full ErgCM vs. NomCM by Age Group

Age Group	**ErgCM**	**NomCM**	**Pr > ChiSq**
Adults	22%	76%	0.0098
Children	18%	73%	0.0022
Young Adults	11%	77%	0.0348
Older Adults	45%	75%	0.0235
Younger Children	25%	67%	0.0321
Older Children	14%	77%	0.0166

Finally, when comparing adult and child use of full ErgCM versus full NomCM, both adults and children were more likely to use full NomCM in the present tense than full ErgCM in the past tense. This finding is statistically significant as is shown in Table 5.6.

5.3.2. Grammatical Relation and Word Type

In order to assess possible differences between case-marking according to grammatical relation and word type, case-marking on agents versus patients was analyzed separately, as detailed in section 4.2.2. First, looking at overall results from partial ErgCM on either agents or patients, the percentage was 48% for adults and 49% for children, as is shown in Table 5.7. That is, only roughly half of the time did adults and

children case-mark either agents with OBL or patients with DIR in past-tense transitive target sentences. When partial NomCM on either agents or patients was analyzed, the percentage of partial NomCM patterns of usage by adults and children increased to 87% and 85%, respectively. These differences in usage between adults and children were not significant for either tense.

Table 5.7. Percentage of Partial Split-Ergative Case-Marking

Tense	Adult			Child			Pr > ChiSq
	Percent	Lower CI	Upper CI	Percent	Lower CI	Upper CI	
Past (ErgCM)	**48%**	37%	58%	**49%**	42%	55%	0.9547
Present (NomCM)	**87%**	84%	89%	**85%**	81%	89%	0.2333

When considering partial ErgCM by adult age group, the data show that older adults used partial ErgCM on target sentences 65% of the time while younger adults used ErgCM only 36% of the time. This difference is statistically significant, as is shown in Table 5.8. Similarly, for child age groups, the data show a slight difference in ErgCM between older and younger children. In this case, younger children used partial ErgCM on target sentences more often at 60% of the time compared to 42% for older children. This finding is also statistically significant, as is shown in Table 5.8. These findings indicate that older adults were more likely to use partial ErgCM than younger adults and that younger children were more likely to use partial ErgCM than older children.

Compared to ErgCM, there was very little difference in the use of partial NomCM by age group. Older adults used partial NomCM on 86% of target sentences in the present tense compared to 88% for younger adults; as shown in Table 5.8, there was no significant difference in case-marking patterns between older and younger adults. As for the child age groups, there was a slightly greater difference in use between older and

younger children; older children used partial NomCM on 88% of target sentences in the present tense compared to 81% for younger children. However, this finding also shows no significant difference in case-marking patterns between older and younger children (see Table 5.8), although the difference is larger than the difference between adult age groups.

Table 5.8. Percentage of Partial Split-Ergative Case-Marking by Age Group

Tense	Group	Younger			Older			Pr > ChiSq
		Percent	Lower CI	Upper CI	Percent	Lower CI	Upper CI	
Past (ErgCM)	Adult	**36%**	33%	38%	**65%**	53%	75%	0.0147
	Child	**60%**	56%	64%	**42%**	37%	48%	0.0227
Present (NomCM)	Adult	**88%**	85%	90%	**86%**	81%	89%	0.3764
	Child	**81%**	76%	85%	**88%**	82%	92%	0.0643

5.3.2.1. Grammatical Relation

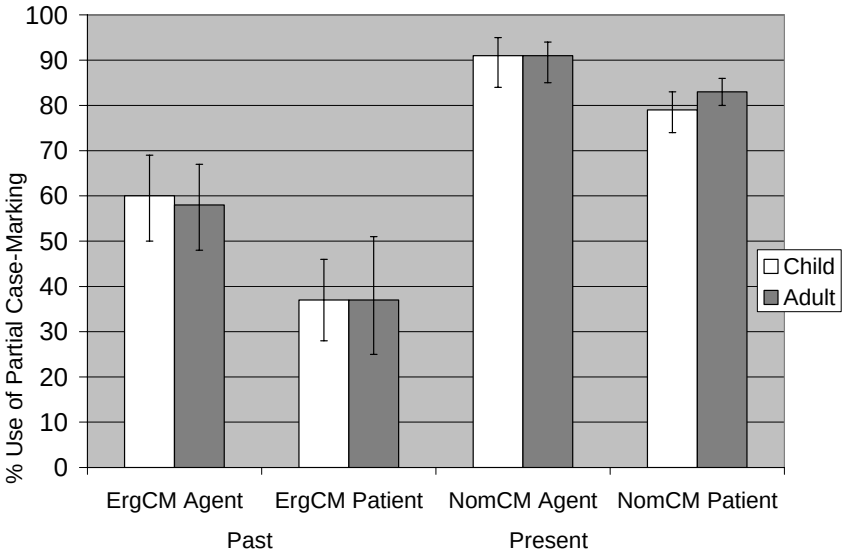
Results suggest that grammatical relation, whether the word is an agent or patient, had a significant effect on case-marking. For adults, agents were more likely to receive ErgCM in the past tense than patients; in other words, agents were more likely to have OBL than patients were to have DIR (see Figure 5.3). This finding is statistically significant, as shown in Table 5.9. Children were also more likely to case-mark agents than patients with ErgCM in the past tense.

In the present tense, agents were also more likely to have NomCM than were patients, i.e., agents were more likely to be in DIR form than patients were to be in OBL (see Figure 5.3). Although the difference in case-marking of agents and patients in the present tense is smaller than in the past tense, it is still statistically significant, as is shown in Table 5.9. The difference is significant for both adults and children.

Table 5.9. Grammatical Relations: Percentages and Significance Levels

Tense	Group	Agent			Patient			Pr > ChiSq
		Percent	Lower CI	Upper CI	Percent	Lower CI	Upper CI	
Past (ErgCM)	Adult	58%	48%	67%	37%	25%	51%	0.0247
	Child	60%	50%	69%	37%	28%	46%	0.0257
Present (NomCM)	Adult	91%	85%	94%	83%	80%	86%	0.0424
	Child	91%	84%	95%	79%	74%	83%	0.0175

Figure 5.3. Percentage of Case-Marking by Grammatical Relation



As we can also see from Figure 5.3, adults and children used very similar percentages in case-marking according to grammatical relation. This finding is true for both ErgCM and NomCM. Overall, both adults and children case-marked agents more often than patients in both tenses.

5.3.2.2. Word Type

Results suggest that word type, whether the word is a noun or pronoun, had a significant effect on case-marking. For adults, pronouns were more likely to receive ErgCM in the past tense than were nouns; pronouns were marked with ErgCM 64% of the time whereas nouns were marked 36% of the time (see Figure 5.4). This finding is statistically significant, as shown in Table 5.10. Children were also more likely to mark pronouns than nouns with ErgCM in the past tense, with pronouns marked 64% of the time and nouns marked 36% of the time. This finding is statistically significant as well.

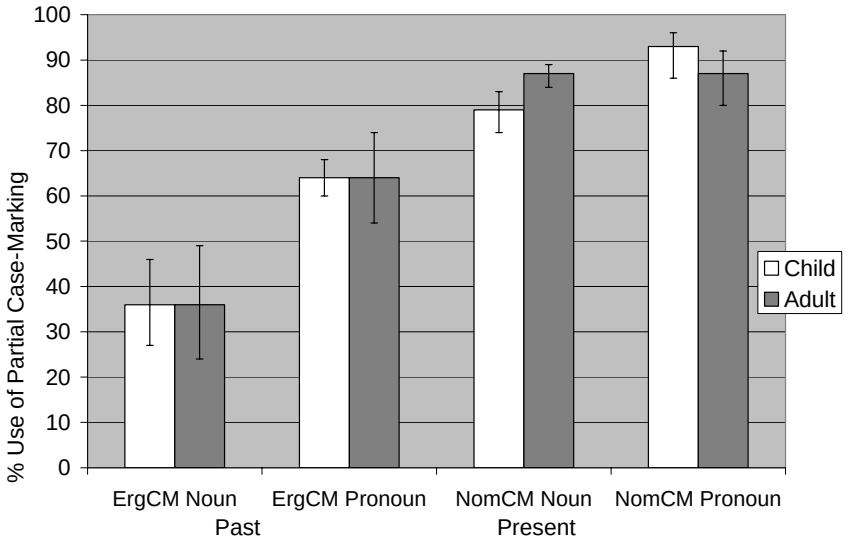
In the present tense, the difference between marking pronouns and nouns with NomCM was smaller. Adults used NomCM on pronouns and nouns with the same percentage at 87% (see Figure 5.4 and Table 5.10). Children used NomCM on pronouns 93% of the time compared with 79% on nouns. This finding is statistically significant as is shown in 5.10.

Thus as we can see summarized in Figure 5.4, adults and children displayed very similar rates of case-marking according to word type. This finding is true for both ErgCM and NomCM. Overall, both adults and children used case-marking on pronouns more often than nouns, with the exception of adults in the present tense. In the present tense, adults case-marked nouns and pronouns at the same rate.

Table 5.10. Word Type: Percentages and Significance Levels

Tense	Group	Noun			Pronoun			Pr > ChiSq
		Percent	Lower CI	Upper CI	Percent	Lower CI	Upper CI	
Past (ErgCM)	Adult	36%	24%	49%	64%	54%	74%	0.0069
	Child	36%	27%	46%	64%	60%	68%	0.0155
Present (NomCM)	Adult	87%	84%	89%	87%	80%	92%	0.9135
	Child	79%	74%	83%	93%	86%	96%	0.0046

Figure 5.4. Percentage of Case-Marking by Word Type



5.3.2.3. Interaction: Age, Grammatical Relation, Word Type

Another important aspect to consider in case-marking patterns is a possible interaction affect between age, grammatical relation, and word type. In this section, I examine whether there are any statistically significant interactions in the data for partial NomCM and ErgCM. As is shown in Table 5.11, there are several significant interactions, highlighted in the table using italics. First, for the adults, there is no significant interaction between age and word type or grammatical relation. However, for children, there is a significant interaction between age and word type in the past tense, but not between age and grammatical relation. Finally, there is a significant interaction effect between grammatical relation and word type in the past and present tenses for both adults and children.

Table 5.11. Statistical Interaction between Grammatical Relations and Word Type

Age Group	Interaction	Tense	Pr > ChiSq
Adults	Age X Grammatical Relation	**Past (ErgCM)**	0.532
		Present (NomCM)	0.5867
	Age X Word Type	**Past (ErgCM)**	0.2434
		Present (NomCM)	0.735
	Word Type X Grammatical Relation	***Past (ErgCM)***	*0.005*
		Present (NomCM)	*0.005*
Children	Age X Grammatical Relation	**Past (ErgCM)**	0.339
		Present (NomCM)	0.227
	Age X Word Type	***Past (ErgCM)***	*0.009*
		Present (NomCM)	0.932
	Word Type X Grammatical Relation	***Past (ErgCM)***	*0.002*
		Present (NomCM)	*0.024*

First, the interaction between age and word type for children in the past tense is significant (χ^2 test, p=0.009). Summed across both age groups, children were more likely to use ErgCM on pronouns than nouns; see Tables 5.10 and 5.12 and Figure 5.5. I decomposed the interaction for each level of age, looking for differences between noun and pronoun usage. There was no significant difference in noun and pronoun usage for younger children (χ^2 test, p=0.439). However, there was a significant difference for older children (χ^2 test, p=<.0001). Thus, older children were more likely to use ErgCM on pronouns than nouns in the past tense, but the results show no significant difference for younger children in usage patterns by word type in the past tense. These results suggest that the overall difference in case-marking according to word type for children discussed previously in Section 4.3.2.2 is being driven by the older children with little contribution from the younger children.

Figure 5.5. Children's Percentages of ErgCM in Past for Nouns and Pronouns

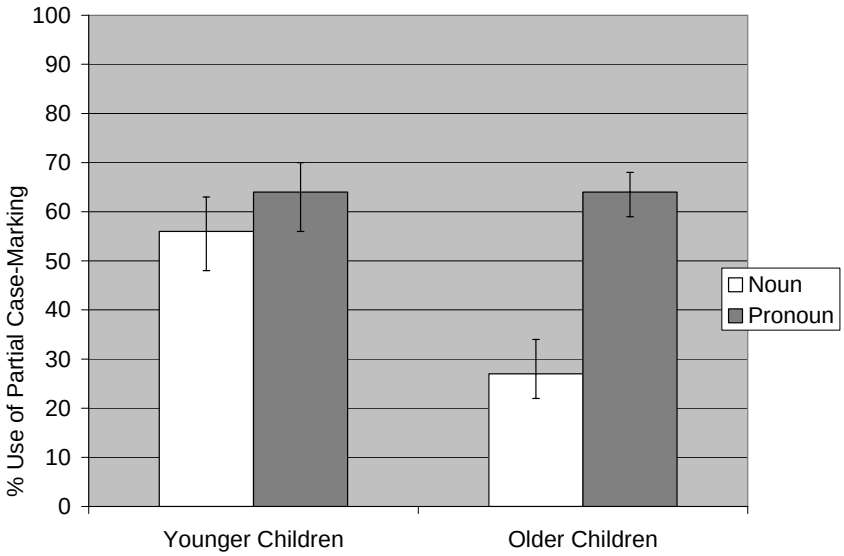


Table 5.12. Children's Percentages of ErgCM in Past for Word Type

Group	Noun			Pronoun		
	Percent	**Lower CI**	**Upper CI**	**Percent**	**Lower CI**	**Upper CI**
Younger Children	56%	48%	63%	64%	56%	70%
Older Children	27%	22%	34%	64%	59%	68%
Total	36%	27%	46%	64%	60%	68%

I also decomposed the interaction for different word types, looking for differences in usage between age groups. While there was no significant difference in pronoun usage between younger and older children, there was a significant difference in noun usage; younger children were more likely to use ErgCM on nouns that older children (χ^2 test, p=<.0001). These results may suggest that as children get older, they are less likely to use ErgCM on nouns, but for pronouns, the likelihood remains the same.

Let's look now at the interaction between word type and grammatical relation. First, in the past tense, as presented previously, for both adults and children, agents were more likely to have ErgCM than patients, and pronouns were more likely to have ErgCM than nouns (see Tables 5.9 and 5.10). The interaction between word type and grammatical relations in the past tense is also significant for both adults (χ^2 test, p=0.005) and children (χ^2 test, p=0.002).

First, I decomposed the interaction for grammatical relation, looking for differences between noun and pronoun usage. Table 5.13 and Figure 5.6 present the results, with percentages and significance levels for each interaction. Results show that for both adults and children, there was a significant difference in ErgCM between pronouns and nouns in the agent position; pronouns were more likely to have ErgCM (OBL) than nouns. There was also a significant difference in ErgCM between pronouns and nouns in the patient position; this time, however, nouns were more likely to have ErgCM (DIR) than pronouns.

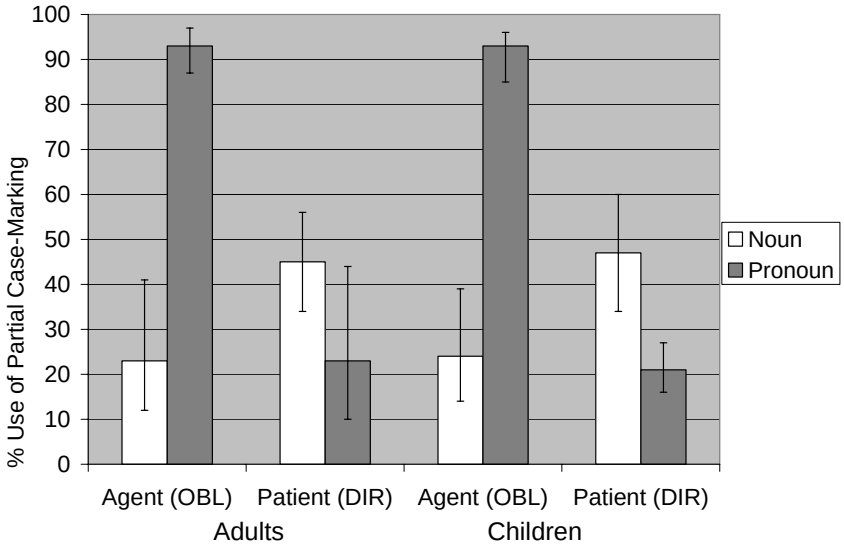
I also decomposed the interaction for word type, looking for differences in usage between agent and patient positions. Results show that there was a significant difference in ErgCM for pronouns in agent versus patient positions for both adults (χ^2 test, p=<.0001) and children (χ^2 test, p=<.0001); for pronouns, agents (OBL) were more likely to have ErgCM than patients (DIR). There was also a significant difference in ErgCM for nouns in agent versus patient positions for both adults (χ^2 test, p=0.002) and children (χ^2 test, p=0.018); for nouns, patients (DIR) were more likely to have ErgCM than agents (OBL). These findings for interactions between word type and grammatical relation in the past tense suggest that a nominative/accusative pattern may emerge if a clause had a agentive noun and a pronoun as patient. Conversely, an ergative/absolutive pattern may

emerge if a clause had an agentive pronoun and a noun as patient. Clauses with both agent and patient pronouns would more likely have double OBL case-marking.

Table 5.13. Use of ErgCM as a Function of Word Type and Grammatical Relation

		Noun			Pronoun			Pr > ChiSq
		Percent	Lower CI	Upper CI	Percent	Lower CI	Upper CI	
Adult	Agent (OBL)	23%	12%	41%	93%	87%	97%	<.0001
	Patient (DIR)	45%	34%	56%	23%	10%	44%	0.0036
Child	Agent (OBL)	24%	14%	39%	93%	85%	96%	<0.0001
	Patient (DIR)	47%	34%	60%	21%	16%	27%	<0.0001

Figure 5.6. Use of ErgCM as a Function of Word Type and Grammatical Relation

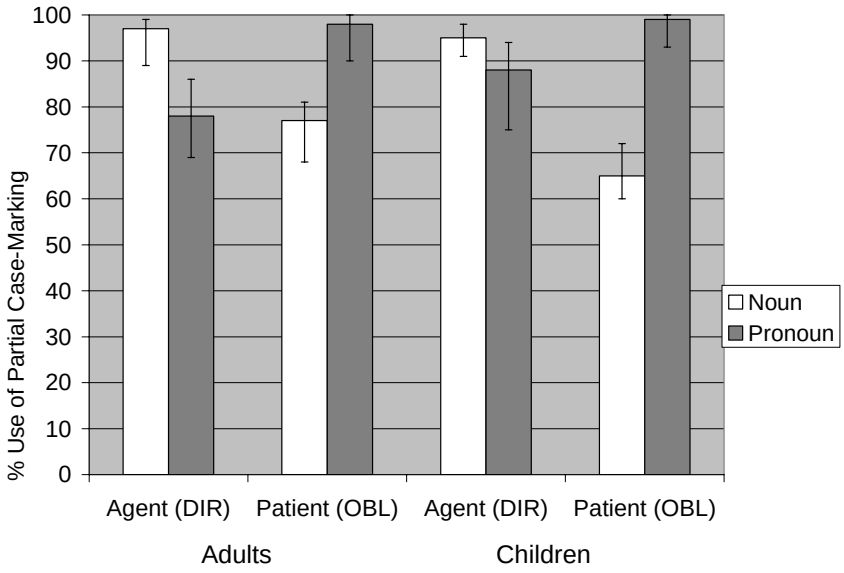


As for the present tense, as presented previously, for both adults and children, agents were more likely to have NomCM than patients. However, while for children, pronouns were more likely than nouns to have NomCM, for adults, there was no significant difference (see Tables 5.9 and 5.10). Nevertheless, the interaction between word type and grammatical relations in the present tense is significant for both adults (χ^2 test, $\underline{p}$=0.005) and children (χ^2 test, $\underline{p}$=0.024).

Table 5.14. Use of NomCM as a Function of Word Type and Grammatical Relation

		Noun			Pronoun			Pr > ChiSq
		Percent	Lower CI	Upper CI	Percent	Lower CI	Upper CI	
Adult	Agent (DIR)	97%	92%	99%	78%	67%	86%	0.0002
	Patient (OBL)	77%	73%	81%	98%	90%	100%	0.005
Child	Agent (DIR)	95%	86%	98%	88%	75%	94%	0.194
	Patient (OBL)	65%	57%	72%	99%	93%	100%	<.0001

Figure 5.7. Use of NomCM as a Function of Word Type and Grammatical Relation



First, I decomposed the interaction for grammatical relation, looking for differences between noun and pronoun usage. Table 5.14 and Figure 5.7 present the results, with percentages and significance levels for each interaction. Results show that for adults, there was a significant difference in NomCM between pronouns and nouns in the agent position; nouns were more likely to have NomCM (DIR) than pronouns. However, for children, the difference between pronouns and nouns in the agent position was not significant. There was a significant difference in NomCM between pronouns and nouns in the patient position for both adults and children; this time, pronouns were more likely to have NomCM (OBL) than nouns.

I also decomposed the interaction for word type in the present tense, looking for differences in usage between agent and patient positions. Results show that there was a significant difference in NomCM for pronouns in agent versus patient positions for both adults (χ^2 test, p=0.001) and children (χ^2 test, p=0.03); for pronouns, patients (OBL) were more likely to have NomCM than agents (DIR). There was also a significant difference in NomCM for nouns in agent versus patient positions for both adults (χ^2 test, p=<.0001) and children (χ^2 test, p=0.0001); for nouns, agents (DIR) were more likely to have NomCM than patients (OBL).

Thus overall, both children and adults were more likely to use ErgCM (OBL) on agentive pronouns than agentive nouns and were more likely to use ErgCM (DIR) on nouns than pronouns in the patient position. In addition, participants used ErgCM on agentive pronouns by far the most often at 93% compared to pronouns in the patient position or nouns in either position, all of which had ErgCM less than 50% of the time. In the present tense, although the differences seem to be less striking, there are many significant interactions. It is clear participants used NomCM the most on pronouns in the patient position (OBL), which was significantly more often than nouns in the patient position or pronouns in the agent position (DIR). While adults were more likely to use NomCM on nouns than pronouns in the agent position (DIR), the difference was not significant for children.

These findings also suggest that, looking across the two tenses, pronouns were significantly more likely to be in the OBL form rather than the DIR form and nouns were more likely to be in the unmarked DIR form rather than the marked OBL form. Also, in both tenses, pronouns were significantly more likely to have OBL than nouns. These tendencies are somewhat tempered by their positions in the sentence. As shown in Table 5.15, pronouns are in the OBL form more often in all positions except as present-tense

agents; in all other positions, they have the OBL form in usage by both adults and children over 75% of the time. Nouns, by contrast, are less clear in their tendency to be in the unmarked DIR form, but there seems to be a shift in that direction. In agent position in the present (NomCM) and past (ErgCM) tenses, nouns are in the unmarked DIR form over 75% of the time in usage by both adults and children. In the patient position in the past tense, the percentage is close to 50% and for the present tense less than 40%.

Table 5.15. OBL/DIR Patterns for Nouns and Pronouns

Word Type	**Case**	**ErgCM Agent**		**ErgCM Patient**		**NomCM Agent**		**NomCM Patient**	
		Adult	**Child**	**Adult**	**Child**	**Adult**	**Child**	**Adult**	**Child**
Nouns	DIR	77%	76%	45%	47%	97%	95%	23%	35%
	OBL	23%	24%	55%	53%	3%	5%	77%	65%
Pronouns	DIR	7%	2%	23%	21%	78%	88%	2%	1%
	OBL	93%	93%	77%	79%	22%	12%	98%	99%

5.3.3. Individual Nouns and Verbs

Another possible effect on the use of case-marking could be particular nouns/pronouns and verbs, perhaps due to overall frequency of usage, historic processes, semantic content on nouns and pronouns (i.e., animacy hierarchy), or the degree of a transitivity a sentence has with certain verbs. It is possible that some nouns/pronouns are more frequently found in the OBL or DIR forms than other nouns; for instance, it was suggested previously in the literature that masculine nouns were losing OBL.

In Section 4.3.2.2, a significant difference between word types was already established; pronouns are more likely to receive ErgCM and NomCM case-marking than nouns. Here, for the different target nouns and pronouns, percentages of use and significance tests were run to determine any patterns within these groups. Table 5.16 details the percentage with which adults and children used ErgCM and NomCM on the 9 target nouns and 6 target pronouns. There is some variation present in case-marking

between different nouns and pronouns, but there were not enough tokens for each noun to generate significance values.

Table 5.16. Individual Noun Percentages

Noun/Pronoun	Children		Adults	
	ErgCM	NomCM	ErgCM	NomCM
merik (man, masc.)	25%	90%	44%	86%
lawik (boy, masc.)	29%	76%	34%	72%
hesp (horse, masc.)	33%	0%	0%	0%
golik (calf, fem.)	15%	79%	42%	91%
jinik (woman, fem.)	40%	92%	35%	88%
qizik (girl, fem.)	38%	87%	29%	95%
bebeg (baby, fem.)	29%	82%	41%	92%
bizin (goat, fem.)	14%	86%	0%	100%
pisik (cat, fem.)	67%	40%	0%	57%
1s (ez, mîn)	51%	100%	68%	77%
2s (tu, te)	72%	96%	83%	88%
3s (ew, wî)	71%	77%	50%	77%
1p (em, me)	79%	100%	67%	96%
2p (wûn, we)	87%	80%	60%	78%
3p (ew, wan)	50%	80%	35%	84%

Table 5.17. Individual Pronoun OBL Percentages

	ErgCM Agent	ErgCM Patient	NomCM Agent	NomCM Patient
1s	100%	77%	70%	100%
2s	97%	86%	10%	84%
3s	50%	50%	0%	62%
1p	93%	100%	6%	100%
2p	82%	100%	29%	100%
3p	100%	93%	25%	94%

The only discernible patterns emerge with regard to masculine versus feminine nouns and with pronouns. First, masculine nouns were in the unmarked DIR form, or the bare form of the noun, with only one or two instances among all participant responses in the OBL form. Feminine nouns seem to retain some OBL marking, much guided by grammatical position in the sentence.

Pronouns seem have the most distinctive pattern in the data. As mentioned previously in Section 4.3.3.3, pronouns have a tendency to be OBL. In Table 5.17, we see more information about this pattern. First person singular pronouns have a high percentage of being in the OBL form in all positions, all above 70%. This is especially clear in the percentage for NomCM agents, where all other pronouns were in the DIR form more than 70% of the time. Third person singular pronouns had the OBL form the least, with only 50% in OBL in ErgCM agent position. All other pronouns had the OBL form in ErgCM agent and NomCM patient positions, which follows the split-ergative pattern, but they also had OBL in ErgCM patient position.

Individual verbs, which constitute the base for triggering case on nouns according to grammatical relation or semantic role, could also have an effect on case-marking by participants. Both percentages of use and significance tests were run to determine an effect for different verbs. Table 5.18 details the percentages with which the 11 different verbs had split-ergative case-marking. The first column deals with full ErgCM and NomCM, or rather when both agent and patient have ErgCM and NomCM. The second column shows how often there was partial ErgCM or NomCM, or when either agent or patient had ErgCM or NomCM. Finally, the last two columns showed how often the agent and patient had split-ergative case-marking.

Table 5.18. Individual Verb Percentages

	Verb	ErgCM				NomCM			
		Full	**Partial**	**Agent**	**Patient**	**Full**	**Partial**	**Agent**	**Patient**
Children	bite	30%	53%	58%	48%	68%	80%	91%	70%
	chase	0%	17%	50%	0%	90%	95%	90%	100%
	eat	33%	65%	48%	92%	38%	73%	100%	43%
	hit	13%	39%	48%	30%	36%	61%	68%	55%
	kiss	29%	54%	60%	47%	89%	94%	96%	93%
	lick	0%	30%	46%	10%	83%	92%	94%	89%
	pat	7%	58%	100%	7%	94%	98%	100%	95%
	pick up	24%	51%	55%	47%	75%	82%	100%	67%
	pinch	13%	40%	45%	35%	84%	91%	91%	91%
	push	7%	52%	79%	27%	67%	84%	95%	73%
	smell	20%	58%	82%	20%	68%	83%	86%	79%
Adults	bite	14%	63%	58%	69%	45%	73%	95%	52%
	chase	33%	20%	33%	0%	91%	95%	100%	91%
	eat	0%	75%	85%	64%	42%	70%	75%	67%
	hit	40%	40%	57%	25%	36%	61%	70%	52%
	kiss	16%	42%	47%	37%	92%	96%	100%	92%
	lick	22%	16%	27%	7%	95%	98%	100%	95%
	pat	29%	43%	90%	0%	90%	95%	90%	100%
	pick up	45%	48%	63%	33%	63%	71%	56%	86%
	pinch	12%	44%	53%	37%	18%	96%	96%	95%
	push	20%	67%	64%	50%	84%	92%	100%	84%
	smell	17%	50%	60%	38%	79%	90%	89%	90%

Table 5.19. Verb Significance Results

	Target	**Tense**	**Pr > ChiSq**
Children	11 verbs	Past (ErgCM)	0.3652
	11 verbs	Present (NomCM)	0.4210
Adults	11 verbs	Past (ErgCM)	0.4072
	11 verbs	Present (NomCM)	0.4019

Once again, there is no one verb that stands out as having a higher frequency of split-ergative case-marking patterns of the agent and patient in their sentence than any other. As was suggested for overall split-ergative usage, all verbs have a low percentage of full ErgCM use, both for adults and children. For partial ErgCM use, some verbs used

it over 50%, with ‘eat’ having the most frequent use for children (65%) and adults (75%). For agents, children use the ErgCM (OBL) on the agent for ‘pat’ with 100% of the time and adults 90%. In the present tense, there is also no particular pattern favoring one verb over another. As is shown in Table 5.19, in the present and past tenses, there is no significant difference between case-marking patterns between the verbs.

5.3.4. Word Order

Results show almost no deviations from the strict SOV word order by adults, suggesting that in terms of agent-patient relations, SOV remains the typical word order pattern in Kurmanji and for this community of speakers. The deviations that do occur can be attributed to either pro-drop, focus/topicalization, or effects of the experiment. In Kurmanji, there is a tendency to omit not only the subject of a sentence, but also the object if those two elements are already clear from context. Since participants were watching a video, the subject and object were obvious. Thus, participants sometimes identified the action in the video sequences first, and thus first stated the verb, and then realizing what they did, then restated the sentence, sometimes without stating the subject of the sentence. In the training for the experiment, participants who consistently stated the verb first or dropped their subjects were trained, by a mixture of modeling and overt correction, to use the subject; however, these same participants would occasionally fall back on this pattern. Thus, these deviations should not be considered errors. The data suggest that this community of Kurmanji speakers adhere to SOV word order for agent-patient-verb relations.

5.4. DISCUSSION OF RESULTS

The results from this elicited production task also support conclusions reached in previous literature suggesting that agent-patient case-marking patterns in Kurmanji are

not used consistently. Previous literature has suggested that Kurmanji is shifting towards a full nominative/accusative system, gradually moving from strict ergative/absolutive case-marking in the past tense and nominative/accusative case-marking in the present tense, yielding a highly variable system of usage.

However, data from this group of participants supports a complicated picture of case-marking in the present and past tenses. As was detailed in Section 4.3.1., while full ErgCM usage was rather low, at 22% for adults and 18% for children, full NomCM usage was also rather lower than 100%, at 76% for adults and 73% for children. We cannot establish that the overall pattern is shifting toward nominative/accusative when the nominative/accusative pattern is also variable. Nonetheless, there is still a significant difference in case-marking between ErgCM and NomCM, indicating that both adults and children were more likely to use NomCM than ErgCM.

Although a tendency may exist for a move towards an OBL-OBL or even DIR-DIR pattern in the past tense or a DIR-OBL (fully nominative) pattern in both tenses, no absolute support for this suggestion emerged from the data. Rather, as is mentioned in Sections 4.3.2., case-marking of a word may be affected by its grammatical relation (agent vs. patient) or type (noun vs. pronoun). Overall data suggested that agents were more likely to receive ErgCM and NomCM than were patients for both adults and children and that pronouns were more likely to have ErgCM and NomCM than nouns, also for both adults and children.

However, there is an interesting interaction effect between grammatical relation and word type that shows that these patterns are also more complicated than they may first appear. First of all, it is clear that in the past tense, pronouns in the agent position were marked with ErgCM the most often (93%); these pronouns were in OBL form. For the patient position, pronouns had the ErgCM DIR only 23% of the time, which suggests

an overall shift towards pronouns receiving OBL. Nouns in the agent position had the OBL form only 23% of the time for adults. This finding would suggest that nouns had a tendency to have DIR, the unmarked form of the noun, which is consistent with suggestions in the literature that nouns are overall losing OBL case. However, in ErgCM patient position, which should have DIR, nouns only had DIR 45% of the time, which suggests that nouns have not lost OBL. This finding also somewhat supports the suggestion that the system is moving towards double OBL in the past tense.

When the present tense data are included, the pattern becomes even less clear. Pronouns had OBL more often than nouns, and nouns had DIR more often than pronouns. However, the percentages of NomCM are fairly high for both pronouns and nouns, which suggests that grammatical relation in the present tense has a strong effect on case-marking.

For instance, while pronouns had OBL in the patient position almost all the time by both adults and children (98% and 99% of the time, respectively), they also had DIR in agent position often - 78% for adults and 88% for children. Thus, while pronouns have shown a tendency to be in OBL form, pronouns still retain DIR the majority of the time when in agentive position in the present tense. The same situation is true for nouns; while nouns have a tendency to be in DIR form, they still have OBL more than 50% of the time in patient position in the present tense. Therefore, while the data overall (in both tenses) may lean towards pronouns overall having OBL and nouns having DIR, there is still an effect for grammatical relation tempering case-marking.

5.4.1. Error Analysis

To provide a better picture of what kinds of sentences participants produced, this section will examine typical responses and errors that emerged with specific target sentences and/or certain words or grammatical positions. First of all, in the past tense, the

agent-patient target pattern was OBL-DIR. For instance, in example (1), the target sentence has the agent, *lawikî* 'boy', in the OBL and the patient, *bebeg* 'baby', in the DIR, as is shown in (1a).

Example 1:

(a) Target: OBL-DIR

Lawikî	bebeg	paçîkir.
boy-OBL	baby-DIR	kissed.

'The boy kissed the baby.'

(b) Response type 1: DIR-DIR

Lawik	bebeg	paçîkir.
boy-DIR	baby-DIR	kissed.

(c) Response type 2: DIR-OBL

Lawik	bebegê	paçîkir.
boy-DIR	baby-OBL	kissed.

However, the results from both the adults and children rarely show this pattern. For this particular sentence, the agent *lawikî* was never in the OBL form in usage by adults (only 20% of the time by children), and the patient *bebeg* was in the DIR form only 65% and 60% of the time by adults and children, respectively. Thus, typical responses for this sentence include (1b), which has a DIR-DIR pattern (i.e., no case-marking at all), and (1c), which has a DIR-OBL pattern; (1b) was only slightly more common. In both responses, *lawik* had the unmarked DIR form, but in (1b) *bebeg* has the DIR, and in (1c) the OBL.

A similar situation is true for many other masculine nouns like *lawik*; masculine nouns in agentive position never received OBL by adults (the community norm) and only rarely by children, which may suggest that children have not yet mastered the adult norm. Additionally, masculine nouns in patient position always received DIR by adults and children in the past tense.

Feminine nouns, by contrast, were highly variable with regards to which case they received. For instance, in example (1), *bebeg* is a feminine noun. As stated above, *bebeg* was almost equally likely to have OBL as DIR as the patient in the sentence, with a slight tendency to favor DIR. For other feminine nouns there was also a great deal of variability in case-marking in both agent and patient positions. For instance, in example (2), with both feminine agent and patient in the past tense, the target would have an OBL-DIR pattern as is shown in (2a). While some participants produced (2a) and (2c), (2b) was the most common. These results are typical when feminine nouns are in either agent or patient positions.

Example 2:

(a) Target: OBL-DIR
Jinikê qîzik qurincand.
woman-OBL girl-DIR pinched.
'The woman pinched the girl.'

(b) Response type 1: DIR-OBL
Jinik qîzikê qurincand.
woman-DIR girl-OBL pinched.

(c) Response type 2: OBL-OBL
Jinikê qîzikê qurincand.
woman-OBL girl-OBL pinched.

Finally, pronouns in the past tense were also variable with regards to which case they received; however, as suggested previously, pronouns in agentive position tended to have OBL. For instance, in example (3), both the agent and patient are pronouns. In the target sentence in (3a), the second person singular pronoun has OBL and the first person singular pronoun has DIR. Possible responses from both adults and children are reflected in (3b) and (3c), with (3c) much more common. In fact, only one-third of adults and no children used the DIR form with the first person singular patient as in (2b). Thus, in sentences where both agent and patient were pronouns, results show a tendency for an

OBL-OBL pattern. However, in sentences where pronouns are paired with a noun, as in example (4), then the same degree of variability is present as suggested in the overall data, with sentence (4a) to be just as likely as (4b).

Example 3:

(a) Target: OBL-DIR

Te	ez	tendan.
2s–OBL	1s-DIR	were pinching.

'You were pinching me.'

(b) Response type 1: OBL-DIR

Te	ez	tendan.
2s–OBL	1s-DIR	were pinching.

(c) Response type 2: OBL-OBL

Te	mîn	tendan.
2s-OBL	1s-OBL	were pinching.

Example 4:

(a) Target: OBL-DIR

Te	qîzik	kîtkîrî.
2s-OBL	girl-DIR	was biting.

'You were biting the girl.'

(b) Response type 1: OBL-OBL

Te	qîzikê	kîtkîrî.
2s-OBL	girl-OBL	was biting.

In the present tense, the agent-patient target pattern was DIR-OBL. For instance, in example (5), the target sentence has the agent, *lawik* 'boy', in the DIR form and the patient, *bebegê* 'baby', in the DIR, as is shown in (5a). For nouns, the results from both the adults and children generally show this DIR-OBL pattern. Any variation from this pattern was tendency for the patient to also have DIR case-marking, as in (5b), rather than for the agent to have OBL, as in (5c), which was not the result for any participant for this sentence.

Example 5:

(a) Target: DIR-OBL
Lawik bebegê paçîdike.
boy-DIR baby-OBL is kissing.
'The boy is kissing the baby.'

(b) Response type 1: DIR-DIR
Lawik bebeg paçîdike.
boy-DIR baby-DIR is kissing.

(c) Response type 2: OBL-DIR
Lawikî bebeg paçîdike.
boy-OBL baby-DIR is kissing.

Example 6:

(a) Target: DIR-OBL
Jinik qîzikê diqurincîne.
woman-DIR girl-OBL is pinching.
'The woman is pinching the girl.'

(b) Response type 1: DIR-DIR
Jinik qîzik diqurincîne.
woman-DIR girl-DIR is pinching.

(c) Response type 2: OBL-OBL
Jinikê qîzikê diqurincîne.
woman-OBL girl-OBL is pinching.

As was the situation in the past tense, in the present tense, other masculine nouns tended to have DIR rather than OBL case-marking, even in patient position. Feminine nouns, by contrast, were once again more variable. For instance, in example (6), with both feminine agent and patient, the target would have a DIR-OBL pattern, as is shown in (6a). In fact, the majority of responses were as in (6a). However, some participants produced sentence (6b), while a few produced sentence (6c).

Example 7:

(a) Target: DIR-OBL

Tu	mîn	diqurincîne.
2s–DIR	1s-OBL	are pinching.

'You were pinching me.'

(b) Response type 1: OBL-OBL

Te	mîn	diqurincîne.
2s–OBL	1s-OBL	are pinching.

(c) Response type 2: OBL-DIR

Te	ez	diqurincîne.
2s-OBL	1s-DIR	are pinching.

Finally, pronouns in the present tense were somewhat variable with regards to which case they received; however, pronouns in patient position overwhelming tended to have OBL case-marking. For instance, in the target sentence in (7a), the second person singular pronoun has DIR and the first person singular pronoun has OBL. The most common sentence produced is (7b) with both agent and patient with OBL followed by (7a). Sentence (7c) was also a possibility, but rare.

5.4.2. Age-Based Differences

As for usage based on age group, there is no significant difference in full ErgCM and NomCM or partial ErgCM and NomCM between adults and children or younger adults and older adults and younger children and older children in either the past or present tenses. However usage patterns between younger and older adults approached significance. In addition, younger adults used full ErgCM in the past tense the least often, and older adults used full ErgCM the most often.

In terms of partial ErgCM and NomCM use, there were significant differences between age groups. Older adults were more likely to use partial ErgCM than younger adults, and younger children were more likely to use partial ErgCM than older children.

In the present tense, there was no significant difference in partial NomCM usage according to age group. Partial ErgCM and NomCM use becomes important when considering case-marking according to grammatical relation and word type. However, the only significant interaction in this regard is between child age group and word type; older children were more likely to use pronouns than nouns in the past tense.

Overall, there are few differences in case-marking according to age group in the data. These results suggest that children are using very similar case-marking patterns to adults. While there are some differences within adult and child age groups, the differences are not clear enough to make any claims about why there are differences between older and younger adults or to propose any possible developmental patterns from the child data from this experimental task.

Chapter 6: Conclusion

The results from this analysis of agent-patient case-marking patterns in Kurmanji provide a unique context to examine the acquisition of split-ergative languages as well as the ways in which the linguistic and social environment may affect the input that children receive. In this study, input was inconsistent since case-marking was variable due to linguistic factors (likely language change in progress). That input was also provided in a learning context dissimilar to ones often seen in the acquisition literature.

6.1. Language Change in Kurmanji

Data from this study support conclusions reached in earlier literature that the split-ergative system has weakened and is not used consistently. Previous literature has suggested that Kurmanji is shifting towards a full nominative/accusative system and that currently, as in other Iranian languages, the ErgCM pattern of OBL-DIR is shifting towards a DIR-OBL pattern or an OBL-OBL pattern (Dorleijn 1996; Dixon 1994). A double OBL pattern is unstable and inefficient since there is no difference in case to distinguish between arguments, thus leading to a reliance on word order to distinguish agent from patient. The change may still be in progress (Matras 2002; Dorleijn 1996; Haig 1998), gradually shifting more and more away from strict ergative/absolutive case-marking in the past tense and nominative/accusative case-marking in the present tense, yielding a highly variable system of usage.

Results from both the spontaneous speech samples and the elicited production task paint a complicated picture of case-marking use by both adults and children. Overall, the results from the naturalistic data suggest that the nominative/accusative system in the past tense is weakening more than the ergative/absolutive system in the past, while the

opposite seems true from results from the elicited production task. Ultimately, however, both systems in both tenses seem to be in a state of flux.

As was shown by the adult data, case-marking is variable with few obvious linguistic or extralinguistic constraints on that variation, although a few overall patterns can be discerned. First, older adults adhere more strictly than younger adults to the split-ergative case-marking system, using a nominative/accusative case system (DIR-OBL) in the present tense and an ergative/absolutive (OBL-DIR) one in the past tense. However, while older adults may use more split-ergative patterns, their use is by no means consistent and still shows variation with no obvious constraints on use.

Second, younger participants seem to use split-ergative case-marking patterns, as previously presented in the literature, less than older participants. For instance, adults and young adults show a more mixed use of split-ergative patterns in both tenses than do older adults. This is evident in the present tense with a move away from a strict DIR-OBL pattern, especially with regard to pronouns, and in the past tense where there is less likelihood of having agentive nouns in the OBL form and patient pronouns in the DIR. The older children show use more consistent with young children in the study – a move to a double OBL pattern in the past tense while maintaining a nominative/accusative pattern in the present tense.

The differences between patterns used by older adults and the older children suggest that language change is currently on-going. Results from this study suggest that although Kurmanji in fact may be shifting away from a split-ergative system overall, the past tense is retaining oblique case-marking, even extending to a double OBL pattern, while nouns are gradually losing oblique case-marking altogether. Due to the variability in case-marking, word order is the primary means by which agents and patients are distinguished in Kurmanji.

The one caveat to the inconsistency found in this data stems from the tendency for pronouns to retain OBL case-marking while nouns seem to be losing the OBL. First, there is historical precedent for this tendency for nouns to lose case while pronouns retain it. For instance, historically, English and the Romance languages generally lost case, but pronouns in those languages tend to retain case more than nouns (Blake 2001). In Kurmanji, it appears that this may also be the situation. One reason could be the forms that nouns and pronouns take. For DIR, nouns are in a bare, unmarked form, but for OBL, nouns take an inflectional suffix, -î for masculine nouns and -ê for feminine nouns. As was the situation for English and Romance, these suffixes are more easily lost than fully suppletive forms due to phonological leveling. In contrast, the DIR and OBL forms of pronouns are suppletive, as was shown in Table 2.1. OBL forms of pronouns are not subject to the same phonological processes as the OBL inflection for nouns and are more easily retained. Thus, a situation in which pronouns are retaining OBL case and nouns are not is easily understood due to similarities in historical development with other languages.

Another reason for the emergence of a double OBL pattern could be due to the pattern of internal change documented in Iranian languages. Other Iranian languages have shifted in alignment from an ergative to accusative systems, with many still in a state of flux (Dixon 1994, Haig 2008). As mentioned in Chapter 2, it is common to see a double OBL pattern emerge synchronically in the course of the alignment shift. With regards to ergative case-marking on nouns and pronouns specifically, Haig (2008) suggests that an Ergativity Continuum may help predict the ultimate patterns that will emerge. The Ergativity Continuum combines elements from differential object marking (DOM) (Bossong 1983), differential subject marking (DSM) (de Hoop and de Swart 2009), and the Animacy Hierarchy, which suggests that some languages may differentiate their

subjects or objects into two different classes based on a number of possible different factors. For DOM and DSM, these factors include form (noun vs. pronoun), semantic feature (i.e., animacy, thematic role, definite vs. indefinite, etc.), or clausal features (tense, aspect, etc.) (de Hoop and de Swart 2009, Bossong 1983).

With respect to split-ergative case-marking, from a functional perspective, nominals which are pragmatically and semantically unmarked are expected to be formally less marked. For instance, first and second pronouns, followed by third person, are highest on the Animacy Hierarchy. Thus, they would be expected to be unmarked when acting as agents and marked when acting as patients. Alternately, inanimate nouns would be marked when acting as agents but unmarked when acting as patients.

Although Kurmanji currently does not have DOM or DSM or split case-marking based on the Animacy Hierarchy, a shift away from ergative alignment in the past tense could be affecting different nominals in different ways according to these constraints. According to the Ergativity Continuum "the highest level of ergativity… is associated with the lowest positions on the Animacy Hierarchy… for example, inanimate nouns," (188) and the reverse would also be true. If nouns lose ergative alignment, then personal pronouns do not retain it. Thus, if inanimate nouns lose ergative case-marking, in this case OBL marking on past-tense agents, then pronouns would also ultimately lose ergative case-marking. Haig (2008) states that historically among Iranian languages, "those languages which have all but lost ergativity on nouns **cannot** maintain it on pronouns" (191). Consequently, in our sample, OBL case may not be a marker of ergativity in the past tense, but evidence of a collapse of DIR and OBL case into one form, which for pronouns could be the OBL form. Thus, a double OBL pattern in the past could just indicate two unmarked forms for both agent and patient, relying on word order to indicate argument roles.

6.2. INPUT IN THE LANGUAGE-LEARNING ENVIRONMENT

The social environment in which children acquire language has an important effect on how acquisition takes place, especially in terms of what kinds of input children receive. Children learn from ascertaining the habits of community members, which can take place second-hand through observation of the interactions of others, or first-hand through direct interaction with other community members (child-directed speech).

What many think of as typical in Western societies–a child interacting mostly with his/her mother and sometimes father in single-family households–does not hold true for many more traditional cultures. Like many Middle Eastern areas, the Kurdish villages in Turkey maintain a close-knit community of neighbors with multi-generational extended families living in one household. In the villages where data were collected, neighbors were often family members, with every house open to every other member of the village. Children knew every person in the village and felt comfortable roaming about the area, entering households at will. Thus, children have the opportunity of observing and interacting with an assortment of people on a daily basis, receiving input from a multitude of sources. Conducting fieldwork on the acquisition of language in this area therefore required taking a close look at what kind of input children were receiving and from whom.

When it comes to examining language input, the primary caretaker(s) in this study usually provided the majority of data to analyze. In these Kurdish villages, the identity of the primary caretakers depended on household demographics, division of labor, and social norms. All children in this study had two parents living with them as well as grandparents and siblings, and in most cases, uncles/aunts and cousins. All these household members had a share in looking after young children, and thus provided input. With respect to division of labor, parents were involved in running the farm, and were

therefore absent from the house the majority of the day. Grandparents, after a certain age and depending on available labor alternatives, were generally at home, available to watch and take care of children. Older siblings and cousins and young aunts and uncles attended school during the day, but were available for child care in the afternoons and evening. Finally, considering the social norms of the community, parents were often restricted in their ability to interact with the children in front of elders, especially grandparents; therefore, input from parents was limited compared to grandparents and older children/young adults.

Therefore, child-directed input in these villages came from a variety of sources, the least from parents and the most from older children and grandparents. In the naturalistic, spontaneous speech recordings, the participants interacting with the children were the household members who were most able to spend time with children and get them to talk for the recording; the majority of these caretakers were older children. This variability in the source of the input children receive has implications for how researchers should look at the role input plays in acquisition. To the extent that children in this study received a significant fraction of their input from grandparents, then the rate of the shift from a split-ergative case-marking system may be slowed if their input contains utterances from grandparents that demonstrate more split-ergative usage than is typical of their parents. However, if children received more input from older children/young adults, then the shift away from split-ergativity should continue, which seems to be the case.

In terms of the acquisition of split-ergative case-marking, which is variable among and within caretaker groups, children may acquire patterns that are more similar to the group that provides the most input. Since results suggest that children interact most often with older children, followed by grandparents, their ultimate production may represent this situation and align with one of these groups versus the adults, which

represents the age-group of their parents. Ultimately, the data show that children do exhibit case-marking patterns corresponding to those in the speech community, especially those of older children.

6.3. ACQUISITION OF SPLIT-ERGATIVITY IN KURMANJI

In order to analyze the acquisition of split-ergativity in Kurmanji, we would normally examine the stages at which children use split-ergative case-marking patterns on agents and patients and if and/or how those children produce any errors. However, the presumed target of DIR-OBL case-marking in the present tense and OBL-DIR case-marking in the past tense is brought into question by the variable pattern found in the adult community. Thus, in this situation, analyses should focus on the acquisition of those variable patterns.

The data reported here show that children also produce transitive sentences with variable case-marking. In this study, children show first use of ergative case at an early age, as early as 2,0, and show evidence of repeated use of split-ergative case-marking by 2;6.

Even at these early ages, children use patterns roughly similar to adults in the community. Usage demonstrated in the spontaneous speech samples and the elicited production task suggests that children show similar variability and frequency of use as their caretakers. Children's patterns are closer to usage of younger adults versus older adults, especially those of older children. For instance, while present-tense patterns remain relatively consistent across age groups, in the past tense older adults do not use a double OBL pattern while young adults and older children use double OBL fairly often. Considering that young children receive a great deal of their language input from the older children in their community, it is not surprising then that children learning

Kurmanji have comparable usage. Thus, overall, the data suggest that children acquire the variability modeled by their speech community producing few errors.

Children also seem to acquire both nominative/accusative and ergative/absolutive systems early and equally easily, with some young children showing evidence of the emergence of split-ergative past tense case-marking before present tense nominative/accusative case-marking. While overall nominative/accusative case-marking seems to be used more consistently than ergative/absolutive case-marking, patterns within the adult community show the same trend. Thus the more inconsistent use of ergative-absolutive case-marking should not be considered as errors or differences in developmental stages as compared to nominative/accusative case-marking, but rather as indicative of samples found in the input.

Finally, in terms of word order, for the adults, most utterances had SOV word order, which is the unmarked order for Kurmanji. There were a few instances where there was backing of the agent for emphasis when an utterance was repeated, but overall, there were few deviations from SOV word order. The children also produced SOV word order from the very first two-word utterances and also showed very little variance from this pattern. In fact, since double OBL seems to be an emerging trend for transitive sentences in the past tense, the only way to mark agent-patient grammatical relations is through word order. Thus, for word order, the adult community shows little variation from SOV and the children acquire this pattern early and use it consistently.

Appendices

APPENDIX A: KURMANJI ALPHABET

Kurmanji alphabet	IPA	Kurmanji alphabet	IPA
a	[ə]	m	[m]
b	[b]	n	[n]
c	[ʤ]	o	[o]
ç	[ʧ]	p	[p]
d	[d]	q	[q]
e	[e]	r	[r]
ê	[e:]	s	[s]
f	[f]	ş	[ʃ]
g	[g]	t	[t]
h	[h]	u	[u]
i	[i]	û	[u:]
î	[i:]	v	[v]
j	[ʒ]	w	[w]
k	[k]	x	[x]
l	[l]	y	[j]
		z	[z]

APPENDIX B: ELICITED PRODUCTION TASK PRESENT TENSE TARGET SENTENCES

	Ergative/Absolutive Target Sentence	**English Translation**
1	Hesp gehe duxe.	The horse is eating the grass.
2	Gollik qîzikê dalisdige.	The calf is licking the girl.
3	Merik gollikê tendîde.	The man is pushing the calf.
4	Lawik qîzikê diqurincne.	The boy is pinching the girl.
5	Tu qîzikê kitdikî.	You are biting the girl.
6	Lawik li qîzikê dixe.	The boy is hitting the girl.
7	Qîzik jinikê diqurincîne.	The girl is pinching the woman.
8	Qîzik li lawik dıxe.	The girl is hitting the boy.
9	Qîzik te kitkike.	The girl is biting you.
10	Jinik qîzikê diqurincîne	The woman is pinching the girl.
11	Ew liwe dixin.	They are hitting you.
12	Wun liwî dixin.	You are hitting him.
13	Bebeg pisikê duxwe.	The baby is eating the cat.
14	Lawik bebegê paçîdike.	The boy is kissing the baby.
15	Lawik li bebegê bilindige.	The boy is picking up the baby.
16	Tu yawaş li bizinê dixe.	You are patting the goat.
17	Ew paraberete didin.	They are chasing you.
18	Qîzik gollîkê diqurincîne.	The girl is pinching the calf.
19	Bebeg qizikê paçîdike.	The baby is kissing the girl.
20	Jinik bebegê bîndige.	The woman is smelling the baby.
21	Wûn wî bindikin.	You are smelling them.
22	Em win paçîdikin.	We are kissing her.
23	Tu mîn tendidî.	You are pushing me.
24	Tu mi diqurincîne.	You are pinching me.
25	Ew me dalisdike.	He (it) is licking us.
26	Em yawaş liwî dixin.	We are patting them.
27	Ez wana bilindkim.	I am picking them up.
28	Ez wî duxum.	I am eating it.

APPENDIX C: ELICITED PRODUCTION TASK PAST TENSE TARGET SENTENCES

	Ergative/Absolutive Target Sentence	**English Translation**
1	Hespî gehe xwarîye.	The horse ate the grass.
2	Gollikê qîzik dalîskîr.	The calf licked the girl.
3	Merikî gollik tedida.	The man pushed the calf.
4	Lawikî qîzik qurincand.	The boy pinched the girl.
5	Te qîzik kîtkîrî.	You bit the girl.
6	Lawikî li qîzik xîst.	The boy hit the girl.
7	Qîzikê jinik qurincand.	The girl pinched the woman.
8	Qîzikê li lawik xîst.	The girl hit the boy.
9	Qîzikê tu kîtkîr.	The girl bit you.
10	Jinikê qîzik qurincand.	The woman pinched the girl.
11	Wan liwûn xist.	They hit you.
12	We li ew xist.	You hit him.
13	Bebegê pisik xwar.	The baby ate the cat.
14	Lawikî bebeg paçîkir.	The boy kissed the baby.
15	Lawikî li bebeg bilinkir.	The boy picked up the baby.
16	Te yawaş li bizin.	You pat the goat.
17	Wîn parabere te dan.	They chased you.
18	Qîzikê gollîk qurincand.	The girl pinched the calf.
19	Bebegê qizik paçîkir.	The baby kissed the girl.
20	Jinikê bebegê bînkir.	The woman smelled the baby.
21	We ew(an) bînkir.	You smelled them.
22	Me ew paçîkir.	We kissed her.
23	Te ez tendan.	You pushed me.
24	Te ez qurincand.	You pinched me.
25	Wî em daliskirin.	He (it) licked us.
26	Me yawaş li ew(an) xîst.	We pat them.
27	Mî ew(an) bilinkirîn.	I picked them up.
28	Mî ew xwar.	I ate it.

APPENDIX D: RECORDING SESSIONS PARTICIPANTS AND ACTIVITIES

Participant 1: Aslı

Recording Session	Date	Age	Location	Participants (age)	Activity
1	8/13/05	3;6	Child's house, living room	Grandfather (56) Uncle (31)	Free play with play-doh
2	11/4/05	3;9	Child's house, living room	Uncle (23)	Free play with toys
3	2/14/06	4;0	Child's house, living room	Uncle (23) Mother (28)	Describing story/pictures in book, free play
4	5/3/06	4;3	Child's house, living room	Mother (28) Aunt (12)	Free play

Participant 2: Sonayi

Recording Session	Date	Age	Location	Participants	Activity
1	9/23/05	3;6	Child's house, living room	Sister (10)	Free play with play-doh
2	12/20/05	3;9	Child's house, sleeping room	Uncle (23) Mother (27) Sister (10) Brother (12)	Free play with toys
3	3/10/06	4;0	Child's house, living room	Cousin (23) Father (30)	Describing story/pictures in book, free play
4	5/31/06	4;3	Child's house, sleeping room	Brother (12)	Free play

Participant 3: Ömer

Recording Session	Date	Age	Location	Participants	Activity
1	8/14/05	3;6	Child's house, living room	Mother (35) Sister (13)	Free play with play-do
2	11/4/05	3;9	Child's house, living room	Sister (13)	Free play, eating snacks
3	2/15/06	4;0	Child's house living room	Neighbor (23) Sister (13)	Describing story/pictures in book, free play
4	4/23/06	4;3	Child's house, living room	Sister (13)	Free play

Participant 4: Davud

Recording Session	Date	Age	Location	Participants	Activity
1	8/17/05	3;6	Child's house, living room	Mother (38) Sister (10)	Free play with play-do
2	11/5/05	3;9	Child's house, living room	Sister (10) Sister (13)	Free play with toys
3	2/13/06	4;0	Child's house, living room	Neighbor (23) Sister (13)	Describing story/pictures in book, free play
4	4/23/06	4;3	Child's house, living room	Sister (10)	Free play

Participant 5: Dilan

Recording Session	Date	Age	Location	Participants	Activity
1	9/3/05	2;6	Child's house, living room	Sister (10)	Free play with play-do
2	12/19/05	2;9	Child's house, sleeping room	Sister (8) Mother (28)	Free play with toys
3	3/9/06	3;0	Child's house, living room	Mother (28) Grandmother (48) Sister (8)	Describing story/pictures in book
4	6/2/06	4;3	Child's house, sleeping room	Sister (10) Sister (8)	Free play

Participant 6: Rojin

Recording Session	Date	Age	Location	Participants	Activity
1	8/16/05	2;6	Child's house, living room Cousin's house, living room	Mother (36)	Free play with play-do
2	11/4/05	2;9	Child's house, living room	Sister (8) Brother (10) Mother (36)	Free play with toys
3	2/14/06	3;0	Child's house, living room, Cousin's house, living room	Cousin (23) Sister (8)	Describing story/pictures in book, free play
4	4/23/06	4;3	Child's house, living room	Sister (8)	Free play

Participant 7: Serkan

Recording Session	Date	Age	Location	Participants	Activity
1	9/1/05	2;6	Child's house, living room	Grandmother (50) Mother (26)	Free play with play-do
2	12/19/05	2;9	Child's house, sleeping room	Grandmother (50) Uncle (22)	Free play with toys
3	3/9/06	3;0	Child's house, sleeping room	Neighbor (23) Grandmother (50) Father (27)	Describing story/pictures in book, free play
4	6/1/06	4;3	Child's house, living room	Neighbor (23) Uncle (22)	Free play

Participant 8: Resul

Recording Session	Date	Age	Location	Participants	Activity
1	9/2/05	2;6	Child's house, living room, sleeping room	Cousin (13) Mother (26)	Free play with play-do
2	11/4/05	2;9	Child's house, living room	Cousin (11)	Free play with toys
3	2/15/06	3;0	Child's house, living room	Neighbor (23) Father (27) Cousin (13)	Describing story/pictures in book, free play
4	5/1/06	4;3	Child's house, living room	Cousin (11)	Free play

Participant 9: Edanur

Recording Session	Date	Age	Location	Participants	Activity
1	9/4/05	1;6	Child's house, living room	Sister (11) Sister (13)	Free play with play-do
2	12/19/05	1;9	Child's house, sleeping room	Sister (13)	Free with toys
3	3/9/06	2;0	Child's house, living room	Sister (13) Sister (11)	Describing story/pictures in book, free play
4	5/30/06	2;3	Child's house, living room	Sister (11)	Free play

Participant 10: Berfin

Recording Session	Date	Age	Location	Participants	Activity
1	9/22/05	1;6	Uncle's house, tv room	Cousin (10) Cousin (8)	Free play with play-do
2	12/19/05	1;9	Child's house, sleeping room	Mother (28) Aunt (42)	Free play with toys, drawing
3	3/9/06	2;0	Child's house, living room	Cousin (21) Cousin (17)	Describing story/pictures in book, free play
4	5/30/06	2;3	Child's house, living room	Mother (28)	Free play, eating a snack

Participant 11: Yusuf

Recording Session	Date	Age	Location	Participants	Activity
1	9/23/05	1;6	Child's house, living room	Grandmother (55) Sister (10)	Free play with play-do
2	12/20/05	1;9	Child's house, living room	Grandmother (55) Grandfather (60)	Free play with toys
3	3/10/06	2;0	Child's house, living room	Cousin (23) Grandfather (60) Sister (10)	Describing story/pictures in book
4	5/31/06	2;3	Child's house, living room	Sister (10) Sister (7) Grandmother (55)	Free play

Participant 12: Selam

Recording Session	Date	Age	Location	Participants	Activity
1	9/23/05	1;6	Child's house, living room	Mother (25)	Free play with play-do
2	12/20/05	1;9	Child's house, living room	Sister (8)	Free play with toys
3	3/10/06	2;0	Child's house, living room	Cousin (23) Sister (8)	Describing story/pictures in book, free play
4	5/31/06	2;3	Child's house, living room	Sister (8)	Free play

References

Bavin, E.L. (1992). The acquisition of Warlpiri. In D.I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 3 (pp.309-371). Hillsdale, N.J.: Earlbaum.

Bedirxan, C.A., and Lescot, R. (1970). *Grammaire Kurde. Dialecte Kurmandji*. Paris: Librairie D'Amerique et D'Orient.

Bedirxan, E.C., and Lescot, R. (2000). *Kürtçe Dilbilgisi (Kurmancî).* Istanbul: DOZ Basım-Yayın Ltd.

Bossong, G. (1983). Animacy and markedness in universal grammar. *Glossologia*, 2, 7–20.

Blake, B.J. (2001). *Case*. Cambridge, UK: Cambridge University Press.

Bulut, C. (1996-1997). Turco-lranian language contact: the case of Kurmanji, *Orientalita Suecana*, 45/46, 1-5.

Bynon, T. (1979). The Ergative construction in Kurdish. *Bulletin of the School of Oriental and African Studies*, 2, 211-224.

Crago, M.B., and Allen, S.E.M. (1999). Acquiring Inuktitut. In O.L. Taylor and L. Leonard (Eds.), *Language acquisition across North America: cross-cultural and cross-linguistic perspectives* (pp.245-279). San Diego, CA: Singular.

Chyet, M.L. (2003). *Kurdish-English dictionary/Ferhenga Kurmancî-Inglîzî*. New Haven: Yale University Press.

Demuth, K. (1998). Collecting spontaneous production data. In D. McDaniel, C. McKee, and H. Smith Carins (Eds.), *Methods for assessing children's syntax* (pp. 3-22). Cambridge, MA: MIT Press.

Dixon, R.M.W. (1994). *Ergativity*. New York: Cambridge University Press.

Du Bois, J.W. (1987). The discourse basis of ergativity. *Language*, 63, 805-855.

Dorleijn, M. (1996). The decay of ergativity in Kurmanci: Language internal or contact induced? *Studies in Multilingualism*. Tilburg: Tilburg University Press.

Ezeizabarrena, M-J., and Larrañaga, M.P. (1996). Ergativity in Basque: A problem for language acquisition? *Linguistics*, 34, 955-991.

Fortescue, M., and Lennert Olsen, L. (1992). The acquisition of West Greenlandic. In D.I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 3 (pp. 111-219). Hillsdale, N.J.: Earlbaum.

Goldin-Meadow, S. (2003). Thought before language: Do we think ergative? In D. Gentner and S. Goldin-Meadow (Eds.). *Language in mind: Advances in the study of language and thought* (pp. 493-522). Cambridge, MA: MIT Press.

Haig, G. (1998). On the interaction of morphological and syntactic ergativity: Lessons from Kurdish. *Lingua,* 105, 149-173.

Haig, G. (2002). Noun-plus-verb complex predicates in Kurmanjî Kurdish: Argument sharing, argument incorporation, or what? *Sprachtypologie und Universalienforschung - STUF*, 55(1), 15-48.

Haig, G. (2008). *Alignment change in Iranian languages: A construction grammar approach*. Berlin: Mouton de Gruyter.

Haig, G., and Matras, Y. (2002). Kurdish linguistics: A brief overview. *Sprachtypologie und Universalienforschung - STUF*, 55(1), 3-14.

Hassanpour, A. (1992). *Nationalism and language in Kurdistan, 1918-1985*. San Francisco: Mellen Research University Press.

Henry, A. (2002). Variation and syntactic theory. In J.K. Chambers, P. Trudgill, and N. Schilling-Estes (Eds.), *The handbook of language variation and change* (pp. 267-282). Malden, MA: Blackwell.

Henry, A. (1998). Dialect variation, optionality, and the learnability guarantee. *Linguistica Atlantica*, 20, 51-71.

de Hoop, H., and de Swart, P. (Eds.) (2009). *Differential Subject Marking*. Dordrecht: Springer.

Hopper, P., and Thompson, S. (1980). Transitivity in grammar and discourse. *Language*, 56, 251-299.

Hudson Kam, C.L., and Newport, E.L. (2005). Regularizing unpredictable variation: The roles of adult and child learners in language formation and change. *Language learning and development*, 1, 151-195.

Imedadze, N. (1991). Crosslinguistic studies of child language. *Studia Linguistica*, 45, 158-163.

Imedadze, N., and Tuite, K. (1992). The acquisition of Georgian. In D.I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 3 (pp. 39-109). Hillsdale, N.J.: Earlbaum.

Imedadze, N. (1997). On early development of Georgian inflection. In W.U. Dressler (Ed.), *Studies in pre- and protomorphology* (pp. 140-148). Wein: Verlag.

Izady, M.R. (1992). *The Kurds: A concise handbook*. Washington: Taylor & Francis

Kovac, C., and Adamson, H.D. (1981). Variation theory and first language acquisition. In: D. Sankoff and H. Cedergren (Eds.), *Variation Omnibus* (pp. 403-410). Carbondale, IL: Linguistic Research.

Kreyenbroek, P.G. (1992). On the Kurdish language. In P.G. Kreyenbroek and S. Sperl, (Eds.), *The Kurds: A contemporary overview* (pp. 68-83). London and New York: Routledge.

MacKenzie, D.N. (1961). *Kurdish dialect studies I*. London, Oxford University Press.

MacWhinney, B. (2000). The CHILDES Project: Tools for analyzing talk. 3rd Edition. Vol. 2: The Database. Mahwah, NJ: Lawrence Erlbaum Associates

Matras, Y. (1992-1993). Ergativity in Kurmanji (Kurdish), *Orientalita Suecana,* XLI-XLII, 139-154.

Matras, Y. (2002). Kurmanjî complementation: Semantic-typological aspects in an area perspective. *Sprachtypologie und Universalienforschung - STUF*, 55(1), 49-63.

May, S. (2001). *Language and minority rights: Ethnicity, nationalism, and the politics of language*. New York: Longman.

McCarus, E.N. (1992). Kurdish. In W. Bright, (Ed.), *International encyclopedia of linguistics*, Vol. XX (pp. 289-294). New York and Oxford: Oxford University Press.

Miller, K. (2007). *Variable Input and the Acquisition of Plurality in Two Varieties of Spanish*. Doctoral Dissertation. Michigan State University.

Miller, K., and Schmitt, C. (2006). 'The Effect of Variable Input on Comprehension: Evidence from Spanish', in D. Bamman, T. Magnitskaia, and C. Zaller (eds.), *BUCLD 30: Proceedings of the 30th annual Boston University Conference on Language Development* (pp. 365-376). Somerville, Mass.: Cascadilla Press.

Mills, A.E. (1985). The acquisition of German. In D.I. Slobin (Ed.), *The crosslinguistic study of language acquisition*. Hillsdale, N.J.: Earlbaum. 141-254.

Mithun, M., and Chafe, W. (1999). What are S, A, and O? *Studies in Language*, 23, 569-596.

Mutlu, S. (1996). Ethnic Kurds in Turkey: A demographic study. *International Journal of Middle East Studies*, 28, 517-541.

Newport, E.L., Gleitman, H., and Gleitman, L.A. (1977). Mother, I'd rather do it myself: Some effects and non-effects of maternal speech style. In C.E. Snow and C.E. Ferguson (Eds.), *Talking to children: Language input and acquisition* (pp. 109-149). Cambridge, UK: Cambridge University Press.

Nichols, J. (2003). Diversity and stability in language. In B. Joseph and R. Janda, (Eds.), *The Handbook of Historical Linguistics*, (pp. 283-310). London: Blackwell.

Ochs, E. (1982). Ergativity and word order in Samoan child language. *Language*, 58, 646-671.

Ochs, E. (1985). Variation and error: A sociolinguistic approach to language acquisition in Samoa. In D.I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 1 (pp. 783-838). Hillsdale, N.J.: Earlbaum.

Payne, T.E. (1997). *Describing morphosyntax: A guide for field linguists*. Cambridge, UK: Cambridge University Press.

Pye, C. (1990). The acquisition of ergative languages. *Linguistics*, 28, 1291-1330.

Pye, C. (1992). The acquisition of K'iche' Maya. In D.I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 3 (pp. 221-308). Hillsdale, N.J.: Earlbaum.

Roberts, J. (1997). Hitting a moving target: Acquisition of social change in progress in Philadelphia children. *Language Variation and Change*, 9, 249-266.

Roeper, T. (2007). What frequency can do and what it can't. In I. Güzlow and N. Gagarin (Eds.), *Frequency effects in language acquisition: Defining the limits of frequency as an explanatory concept [Studies in Language Acquisition]* (pp. 23-48). Berlin: Mouton de Gruyter.

Saleemi, A.P. (1995). On the acquisition of split ergativity: some evidence from Urdu. In E.V. Clark (Ed.), *The proceedings of the twenty-sixth annual child language research forum* (pp. 197-206). Leland Stanford Junior College: Center for the Study of Language and Information.

SAS Institute, Inc. (2002-2003). Cary, NC.

Schieffelin, B. (1985). The acquisition of Kaluli. In D.I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 1 (pp. 525-593). Hillsdale, N.J.: Earlbaum.

Schmidt, A. (1985). *Young people's Dyirbal: An example of language death from Australia*. Cambridge: Cambridge University Press.

Silverstein, M. (1976). Hierarchy of features and ergativity. In. R.M.W. Dixon (Ed.), *Grammatical categories in Australian languages* (pp. 112-71). New York: Humanities Press.

Singleton, J.L., and Newport E.L. (2004). When learners surpass their models: The acquisition of American Sign Language from inconsistent input. *Cognitive Psychology*, 49, 370-407.

Slobin, D.I. (1982). Universal and particular in the acquisition of language. In E. Wanner and L.R. Gleitman (Eds.), *Language acquisition: the state of the art* (pp. 128-170). Cambridge: Cambridge University Press.

Slobin, D.I. (1985). Why study acquisition cross linguistically? In D.I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 1 (pp. 3-24). Hillsdale, N.J.: Earlbaum.

Slobin, D.I. (1992). Introduction. In D.I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 3 (pp. 1-13). Hillsdale, N.J.: Earlbaum.

Stromswold, K. (1998). Analyzing children's spontaneous speech. In D. McDaniel, C. McKee, and H. Smith Carins (Eds.), *Methods for assessing children's syntax. Cambridge* (pp. 23-53). MA: MIT Press.

Thornton, R. (1998). Elicited production. In D. McDaniel, C. McKee, and H. Smith Carins (Eds.), *Methods for assessing children's syntax. Cambridge* (pp. 77-102). MA: MIT Press.

University of Texas Libraries. (1986). Central Intelligence Agency map number 800603 (544603) 3-86.

Van Valin, R.D. (1992). An overview of ergative phenomena and their implications for language acquisition. In D.I. Slobin (Ed.), *The crosslinguistic study of language acquisition*, Vol. 3 (pp. 15-37). Hillsdale, N.J.: Earlbaum.

Westergaard, M. (2009). Microvariation as diachrony: A view from acquisition. *Journal of Comparative German Linguistics*, 12, 49-79.

Wilson, J., and Henry, A. (1998). Parameter setting within a socially realistic linguistics. *Language in Society*, 27(1), 1-21.

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